INFINITE VISION

HOW ARAVIND BECAME THE GREATEST BUSINESS CASE FOR COMPASSION

Pavithra K. Mehta

Suchitra Shenoy

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INTRODUCTION: THE POWER & PARADOX OF ARAVIND

A journal entry from the 1980's reads as an electrifying note-to-self:

Attachment to your village, your hospital, your state or country – that must go.

You must live in your soul and face the universal consciousness.

To see all as one.

To have this vision and work with strength and wisdom all over the world.

Perhaps the white-haired man with curiously gnarled fingers paused here for a moment before scrawling the next line.

To give sight for all.

The impossible rarely deterred Dr. Govindappa Venkataswamy. As a young surgeon he watched a crippling disease permanently twist and freeze his fingers out of shape. Those fingers went on to perform more than a 100,000 delicate, sight-restoring surgeries, but Dr. V, as he came to be known, would not stop there. In 1976 he founded Aravind, an obscure eye clinic operating out of a family home in South India. He was fifty-eight years old. Aravind was his post-retirement project, created with no money, entrepreneurial experience, business plan, or safety net. What it did have was 11 beds – and an oversized mission. Aravind's mission was to eliminate curable blindness.

When intuitive goodness is pitted against unthinkable odds, it stirs the imagination and awakens possibility. At Aravind, if you cannot pay for surgery you do not have to. If you cannot reach their hospitals, they will come to you. At first glance it seems a venture too quixotic to be effective. But Dr. V integrated a heart of service and deep spiritual aspiration with the best practices of business. In this way, he forged a high volume, high quality and affordable approach to service delivery that put a serious dent in a problem of global proportions. Today, the Aravind Eye Care System is the largest and most productive blindness prevention organization on the planet. Each year it sees more than two and a half million patients and performs over a quarter of a million surgeries; the majority of them for free.

Think David and Goliath; a man stands up in all his devastating frailty, fights the good fight, and wins a victory for humanity. Aravind is luminous proof of what is possible in our world. Dr. V's compassionate vision and the work of his 3000 person staff, (including 21 ophthalmologists across three generations of his family), have captured the attention of individuals as diverse as Bill Clinton, the Princess of Denmark, and strategic management guru CK Prahalad. The organization consults for 'Banker to the Poor', Muhammud Yunus, was visited by Google's celebrity co-founder, and a case study on its work is mandatory reading for every single MBA student at the Harvard Business School. None of this means Aravind is perfect. Its leaders, Dr. V included, are regular people who struggle, make mistakes and muddle through their shortcomings. Fallible like the rest of us, with only this difference: together, these ordinary individuals made a series of uncommon decisions and commitments that turned into something extraordinary.

In a country of 12 million blind, where the majority lives on less than $2 a day, Aravind ripped the price tag off of sight-restoring surgery, treating more than half of its patients at no charge. Simultaneously, it insisted on financial self-reliance, resolving not to depend on government aid, private donations or foreign funding. Even more curiously, in a move to preserve its customers' dignity and self-esteem, Aravind allowed patients to decide for themselves whether they would pay or not. In its self-selecting system, there are no eligibility criteria to be met, no income assessments done. A barefoot farmer can choose to pay for surgery, while the man who became President of India (true story), can opt to receive quality treatment for free. It is a generous arrangement, all the more intriguing for being vigorously profitable. The nonprofit organization makes a considerable operating surplus, and its patient services, including all new growth, are entirely self-funded.

In another paradoxical twist, Aravind's marketing strategies target those least able to pay. It invests tremendous energy in bringing eye care to villagers too poor to seek its services. Its policies ensure that *all* patients get the same high standard of care. The same doctors work across both free and paid services, and patient outcomes hold their own in comparisons with the best hospitals in the world. In a recent like-for-like assessment of its surgical performance against the

United Kingdom's Royal College of Ophthalmologists, Aravind's complication rate was found to be less than half of its British counterpart.[1]

Defying the assumption that high quality surgery cannot be performed at high volumes, its doctors are among the most productive in the world. Aravind surgeons average 2000 cataract surgeries a year, against the Indian average of 400 surgeries and the United States' average of 200.[2] The efficiencies that render this possible help make Aravind one of the lowest-cost, highest quality eye care systems in the world.

Its focus on the penniless does not preclude the breadth or sophistication of its services. Aravind's hospitals attract not just the poor but also hundreds of thousands of individuals with the financial means to pick and choose between service providers across the country. It offers a comprehensive range of specialty care covering everything from corneal ulcers to cancer of the eye. The organization also runs a global research foundation and a post-graduate teaching institute that has trained 10% of all ophthalmologists in India.[3] Its short-term fellowships continue to attract residents from leading medical schools around the world (Johns Hopkins and the Mass Eye & Ear Infirmary of Harvard Medical School, included).

Taking on a goal that far exceeds your capacity has a powerful side effect. It primes you to find allies everywhere. At Aravind, this translates into a counter-intuitive commitment to training its competition. It works with hospitals in its own backyard, helping them replicate the Aravind model. Aravind not only permits them to copy the very processes that give it a competitive advantage – it actively encourages them to do so. It runs a consulting service that has worked with over 270 hospitals across 27 countries.[4]

This is a spirited organization that followed the dictates of mission into perilous territory – and lived to tell the tale. When the intraocular lens implant that revolutionized cataract surgery in the

[1] Prahalad, CK. *Fortune at the Bottom of the Pyramid.* New Jersey: Wharton School Publishing, 2005

[2] Karmali, Nazneen, *Aravind Eye Care's Vision for India,* Forbes Asia Magazine, March 15, 2010

[3] Ravindran, RD., Ravilla, Thulasiraj, *Aravind Eye Care System: Developing Sustainable Eyecare*, Cataract & Refractive Surgery, March 2006

[4] LAICO, Aravind Eye Care System

West proved too expensive to import for all its patients, Aravind took a brave step. It proceeded against informed opinion and global pressure to set up its own internationally certified manufacturing facility. Its high quality implants dropped the price from $200 to $5[5], making the lenses affordable not just for its own patients, but for the rest of India and other developing countries as well. Today, its ophthalmic exports are indirectly responsible for improving surgical outcomes for millions of patients in over 120 countries.[6]

These individual actions, amazing in themselves, collectively speak to something more. They are uplifting evidence that an organization with a social mission does not have to depend on external funding, or run at a loss, or make compromises in efficiency, scale, quality or scope. Aravind is a glowing exception to all the usual rules.

Over the decades, numerous case studies and magazine articles have attempted to explain Aravind's success. Most of them seek to answer the same implicit question: how has Aravind reached its current scale and success while giving specialized, high quality services away for free? The framing of that question tends to limit the scope of the answer. Aravind is an unconventional model that came into being – not despite, but *because of* – the deep-seated compassion at its core.

Here is a model that demonstrates the power of integrating innovation with empathy, business principles with service, and outer transformation with inner change. Framed this way, a new line of inquiry emerges. How did Aravind design systems that thrive by serving those in greatest need? What experiences and insights spurred its leaders to make the unexpected choices that they did? How did these choices impact the organization's efficiency, sustainability and scale? And, at a time when western health care systems are in crisis and social enterprise pilots are proliferating across multiple sectors – is Aravind an inspiring singularity, or a repeatable miracle? These are some of the questions examined in this book. And at its core is a simple riddle that entwines them all: *If Aravind is the extraordinary answer – what were the questions?*

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[5] Prahalad, CK. *Fortune at the Bottom of the Pyramid.* New Jersey: Wharton School Publishing, 2005

[6] Aurolab, Aravind Eye Care System

To understand the Aravind model – what made it work and what continues to fuel its expansion and impact - one must approach the heart and mind of the visionary surgeon who set it all into motion. In that sense, this book is also an invitation to walk awhile with Dr. V, see the world as he saw it, meet the people who would join him, and catch a glimpse of the lives they touch. In the end, it is an invitation to experience a spark of that which drives our deepest intentions to action.

To see all as one. To give sight for all. Ultimately Dr. V's vision and Aravind's work draw an arc between the practical and the profound. This story lives on that arc. It is the tale of a revolutionary business model set in the developing world, focused on the sustainable delivery of eyesight. But it is also the journey of an unlikely hero with an impossible dream whose story transcends its own specificity to speak of universal truths. To be of service to others is to serve ourselves. Our limitations do not define us. And embedded in the human spirit is a wisdom and strength that can rise to meet our greatest challenges. Together we can light the eyes of millions.

PROLOGUE

Sitting down with Aravind's founder, questions shoot out like impatient arrows from Justin Huggler, Asia Correspondent for *The Independent*, "How? How did you do it all? How do you keep on keeping on the way you do? How do you persuade so many others to do the same?"

Dr. V, who can sometimes be very somber during interviews, is at his sunniest. He smiles and says nothing. "How did you manage to do it all, Dr. V?" Huggler persists, and Dr. V chortles. "You know, there are people who have climbed Mount Everest," he says in his strongly accented English. When you have spent some time with Dr. V, you eventually begin to understand his seemingly irrelevant answers to questions that refer too closely to the grandeur of his achievements. But this is Huggler's first meeting with Dr. V, so he tries again, "Yes, but it takes people four weeks to climb Everest, and then they go home and holiday. You've been doing this work day after day after day – how do you do it?" "People are good at heart, they help you," says Dr. V simply.

"Maybe, but they're also lazy. How did you get this to work?" Huggler is determined to get somewhere. And, after a few more digressions on Everest, unexpectedly, he does. "You see, when people need help, you can't simply run away, no? You say I will help you and then you do what you can. Even when we started, we did good quality work, so the rich people came and paid us. And we could treat the poor people with the money saved. The poor people brought more poor people; the rich people brought more rich people. So now, here we are," says Dr. V. The man has fit his entire life's work and the evolution of the largest eye care system in the world into less than five sentences.

Seated in Dr. V's office, Huggler laughs and his face relaxes for the first time. "Amazing," he says, "This is just amazing." There is one last question. "But what motivates people to stay and work so hard here when they could have things so much easier somewhere else?" asks Huggler. "What motivates people to climb mountains?" asks Dr. V in return, "It isn't easy to climb Everest – but people do it anyway – isn't it?"

In slightly more than five sentences, here is a study of that climb.

PART I THE 5-MINUTE $15 CURE: ON EFFICIENCY & COMPASSION

My goal is to spread the Aravind model to every nook and corner of India, Asia, and Africa; wherever there is blindness, we want to offer hope. Tell me, what is this concept of franchising? Can't we do what McDonald's and Burger King have done?

- Dr. Govindappa Venkataswamy

CHAPTER 1: OF BURGERS AND BLINDNESS

Built in the shape of a lotus, Madurai is one of the oldest cities of south India. At its heart lies the massive complex of the Meenakshi temple. Home to a million people, the city is a dense cultural center, famed for its lofty poetry, heady jasmine, and legendary goddess ruler. Vaigai, the temperamental river that alternates between trickle and monsoon flood, divides the city in two. On one side rise the distant towers of the temple and on the other is a street that has been taken over by an expanding empire for eye care.

On this spring morning in 2004, the banana man's cart, festooned with garlands of his sweet yellow fruit, is parked in its customary place. A woman slaps laundry against a stone block on the sidewalk while clotheslines slung from crowded balconies flutter in the breeze. A beanpole of a man weaves through traffic on a bicycle, holding a cell phone to his ear. Up ahead a bus has been held up by an unhurried herd of buffalos. Road dividers and traffic lights make a stab at order, but there are cheerful violations everywhere.

This is not an easy country to regulate, not its streets and certainly not its healthcare. Lawsuits have not deeply permeated India's medical profession and the stringent mandates and regulations that govern western medicine are ill enforced. Health insurance for the masses is only beginning to emerge. The vast majority of patients pays out-of-pocket for private care, or seeks subsidized service in government hospitals that are over-crowded, under-staffed and rife with serious quality lapses. The road to care can be hazardous in such an environment. But there are exceptions.

Up ahead, a frail, elderly woman sits sidesaddle on a scooter behind her son. A green post-surgery patch over her left eye gives her an unexpected, rakish air. On this street such pirate-patients are common – they are evidence that a small miracle of sight has recently occurred. The scooter turns the corner at 1, Anna Nagar, where a five-storied, pale blue building rises behind a stone wall. Brass letters on black granite announce: Aravind Eye Hospital. The wrought iron gates bearing a flower-like symbol are open and the scooter bearing the lady with the green eye-patch turns in. Today she will be one of the six thousand patients that Aravind's hospitals examine on a daily basis.

According to the World Health Organization's estimates, 37 million people in the world are blind, and 12 million of them live in India.[7] 'Needless blindness' is a curious turn of phrase you can't escape at Aravind. It refers to the urgent fact that some forms of blindness are entirely within our power to treat or prevent. Cataract is a prime example. A word whose origins lie in the Greek for waterfall, it also refers to the clouding of the eyes' lens. Painless but progressive, if left untreated, cataract leads from blurred vision to total blindness. A simple, one-time operation can restore sight, but the sobering fact is that cataract still accounts for 50% of the world's blindness.[8]

Dr. V stands in the hallway quietly observing the registration queue. Patients take no notice of the elderly man with the close-cropped white hair and walking stick. The founder of Aravind is easily overlooked in a crowd. He is a man of unremarkable height and weight, with stooped shoulders and a serious face. Today he is wearing a wrinkled white shirt, no doctor's coat or badge. But those gnarled fingers are unmistakable. On his right hand is a ring that bears the same distinct symbol as the hospital gates. All the founding members of Aravind wear these rings, it is a reminder of a particular spiritual inspiration.

Dr. V bends down slowly, and with difficulty. Two nurses rush forward but are too late. He picks up a discarded candy wrapper (a vintage practice of his), scans the now spotless floor, then heads back towards his office.

Aravind was founded by a small band of siblings and Dr. V was the eldest son of five children. After the early death of their father, he took on the responsibility of educating them, guiding their careers and arranging their marriages (as is still the custom in much of India). He himself chose to live a life of celibacy, devoting everything to his family and to the service of the sightless. Then, he had asked his siblings (and their spouses) to join a tiny eye clinic and to treat patients who could not afford to pay. There was no graceful way to refuse. To say it grew from there is an

[7] World Health Organization, "Prevention of avoidable blindness and visual impairment", Secretariat Report, December 2005; Venkatesh et al, "Outcomes of high volume cataract surgeries in a developing country*", British Journal of Ophthalmology,* September 2005, 89(9):1079-83.

[8] World Health Organization, "Prevention of avoidable blindness and visual impairment", Secretariat Report, December 2005

understatement. The Aravind Eye Care System is now the largest provider of eye surgeries in the world. The family's involvement has spiraled out and the employee roster at Aravind currently resembles the guest list of a typical Indian wedding.

Next door to Dr. V's office sits someone whose grade school report cards he inspected three decades ago. "If somebody is blind that's our problem," says Dr. Aravind. "It doesn't matter whether they have money or not. The problem is ours." The charismatic thirty-something is Dr. V's nephew. He was named after the hospital and is the sole surgeon-MBA within the organization. "Our view of the world is very different because of Dr. V," he continues, "Over time he has built a conviction in us that serving the poor is good. That giving most of your services away for free is good." He breaks into a boyish grin, "Basically he has corrupted our view of the world."

Dr. Aravind heads for the door of his office. He is the current administrator of the hospital but still operates three mornings a week and cannot be late; punctuality is a religion here. It is 7:30 am and the corridors, waiting rooms and registration counters are alive with ordered activity. Thirty-three different operating theaters across Aravind's different hospitals are already in full swing. By this afternoon upward of one thousand patients, rich and poor, will have received surgery across the system. "Our focus is on human welfare," says Dr. V, "If a man can't pay me, it doesn't matter. He will give later if he can."

In the early 1990s, a visitor with floppy gray hair walked in to Aravind. At the counter he took out his checkbook, but was politely informed that checks were not accepted and he would need to pay in cash. Having no cash on him he inquired whether it was possible to be treated at Aravind's free section. Yes, it was. Minutes later, the Director of Aravind received a frantic phone call., It was from the visitor's security team who had lost track of him in the corridors. As the story goes he was located in the free division of the hospital, thrilled with the quality of care he had just received. Dr. Abdul Kalam went on to become the President of India and a dear friend of the organization. And this episode became one of Aravind's legends. It illustrates the unusual degree of choice – and universally high quality – accorded to patients.

Thulsi Ravilla, a nephew-by-marriage to Dr. V and also the director of Aravind's consulting institute presents another startling facet of the organization, "The United Kingdom does half a million surgeries annually as a whole country; Aravind does 300,000," he says. That a single

organization in a developing country does roughly 60% of the surgical volume of one of the world's most advanced nations is a compelling fact, but not the punch line. Thulsi's next data point typically drops jaws: Aravind does this at *less than 1%* of Britain's costs. The latter's National Health System spends 1.6 billion pounds annually on eye care delivery against Aravind's modest 13.8 million pounds.[9] "The reasons go beyond a simplistic 'Britain isn't India,' explanation," says Thulsi. While external factors of regulations, economies and cultural expectation are valid differences between East and West, according to Thulsi, myriad other aspects play into the numbers that must be taken into account. Things like efficiency, clinical processes, and cost-control measures. **"**Decoding all this can bring answers to most developed countries," he says.

High volume, high quality, and affordable cost is the tri-part mantra of the Aravind model that can seem almost disappointingly simplistic in the beginning. Provide good service to enough people and you can keep your prices low and still make a profit. That can't be it though, if it were, then Aravind would be one among a hundred such organizations. The engrossing part of the model lies in the details and all the inter-dependencies: How do you create a system that thrives on generosity, one that actually benefits from serving those most in need? How do you engineer an organization that demonstrates repeatedly that high quality surgical outcomes can be fostered, not threatened, by high volume, and how do you, in the developing world context, link high quality with affordability – or more radically still – with 'free'? The answers to these questions weave together as inextricable threads in the fabric of the organization. Each influences and is affected by the others. "Fundamentally it's not just numbers that we are chasing. There is a synergy between quality, cost and the demand for services," says Thulsi.

The first glimpse of that synergy came from a very unlikely place.

It is uncertain when he first came up with the delicious non sequitur that linked eye care service delivery with hamburgers. But Dr. V's early fascination with the golden arches of McDonald's is

[9] Howard Larkin, "Managing eye care resources, a different approach: what can be learned from the developing world?" *EuroTimes*, Volume 15, Issue 10

part of Aravind lore now. Other mainstream chains caught his attention, but McDonald's was by far, Dr. V's most quoted reference. His fascination sidestepped the notoriety of the world's number one fast-food chain and the controversies over its public health impact. He saw in it the power of standardization, scalability, product recognition and reach. "Just as fast food is affordable to many lower middle class families in the West, in developing countries we can organize to provide affordable cataract operations," Dr. V declared in a late 1980s interview. Even close colleagues found his "hamburger talk" a little absurd. But his outlandish references were vindicated in the late nineties when Harvard Business School Economist Regina Herzlinger in her book, 'Market Driven Healthcare,'[10] analyzes in fair detail the McDonald's Corporation's service system. Why McDonald's? In her own words, "Because week after week, year after year, it demonstrates how to attain exactly the qualities that the healthcare system needs – consistency, reliability, clear standards, and low costs – in each of its 20,000 restaurants all around the world."

Dr. V launched Aravind with a grand total of five ophthalmologists on his side. To amplify each surgeon's impact and reach the most people in need, he brought in assembly line techniques and engineered hospital systems that eventually allowed his doctors to perform close to seven times more surgeries than the national average. An intensively trained cadre of mid-level ophthalmic personnel (Aravind's designation for them) is the key to what makes this possible.

A routine eye check up here entails registration, basic vision testing, a preliminary doctor's examination, measurement of ocular pressure, pupil dilation and a final examination. If surgery is recommended, detailed counseling takes place to ensure that the patient fully understands the process. Typically an ophthalmologist would perform the bulk of these duties. But at Aravind, the entire stream of patient-centric activities from entry to discharge, is broken up into sets of discrete tasks (except for the preliminary exam and the final diagnosis, which are done by doctors). These tasks are performed by Aravind's army of paraprofessionals, which includes, nurses, counselors, and ophthalmic technicians among a dozen different sub-cadres each of whom specializes in a clearly defined set of recurring duties.

[10] Herzlinger, Regina. *Market Driven Healthcare: Who wins, who loses in the transformation of America's largest service industry*. New York: Perseus Books Group, 1997

A similar role designation takes place in Aravind's operating rooms and post-operative wards. The result is a system that powerfully maximizes the time and skill of Aravind's surgeons. Everything is geared to allow these doctors to focus almost exclusively on diagnosing patients and performing operations. In this way, with less than 1% of the country's ophthalmic power Aravind is able to perform 5% of all eye care procedures in India[11].

This record-breaking efficiency was also built through a mindset geared for constant process innovation. From its earliest years, Dr. V repeatedly raised the bar on Aravind's success and urged his team to re-examine their processes for unnecessary delays, avoidable irregularities and critical impact areas. His journal entries over the decades reflect these preoccupations.

Over his lifetime Dr. V has piled up close to one hundred journals. Their yellowing pages carry the forgettable details of various conferences, research papers, projects, hospital inventory, and meticulous accounts. But interspersing these prosaic notes are meditations on life's purpose, frank self-assessments and questions --- copious questions. Inquiry is a deep part of his nature and his private catechism embraces both abiding mysteries and transient practical concerns. In a founding year entry from 1976 he writes: "*How to train nurses for post-op dressing. How many tables do we need to operate 30 patients a week. Do we have enough operating sets. Can we start operating earlier in the day. What if we had another facility*." What is striking is that he almost never employs question marks in these entries. As if to Dr. V, framing the right question is an answer of sorts in itself.

The hospital-as-factory mindset can raise logical objections from the uninitiated, but in reality Aravind's approach serves patient interests in multiple ways. The streamlined workflow increases efficiency, which means less waiting time. Task repetition creates competence, which means better clinical outcomes. And extensive delegation not only facilitates individualized attention, it reduces costs, allowing for lower prices. All three working in conjunction facilitate scale and affordability, while simultaneously improving patient experience and the quality of

[11] Jose R. Present status of the National Programme for Control of Blindness in India. *Community Eye Health* 2008, PubMed

care.

Aravind deliberately keeps the entry barrier to its paid services, low. Its consultation fee is roughly $1 and the range of surgery prices are capped at market rate. In this 'something-for-everyone' approach, patients who decide to pay for cataract surgery choose from a tiered range of packages. Mid-range prices start from about $110 and go all the way up to a little more than $1000. Service differentiation occurs primarily in terms of accommodation add-ons (air conditioning, attached bath, an extra bed for a family member) and choice from a range of ophthalmic implants. Patients opting for free or steeply subsidized surgery will pay between $0 and $17. They are housed in dormitories and receive standard lens implants. Clinical outcomes, however, are similar whether a patient pays for services or not. The high volume of patients able and willing to pay brings the average cost of cataract surgery at Aravind to $25 (at a typical Indian hospital this price is around $350, and $1650 in the United States).[12]

Dr. V is talking with two guests from the Schwab Foundation. It comes up that in the United Kingdom, until recently, the wait time for cataract surgery was often as long as two years. "How long do patients have to wait here?" asks one of the visitors. Dr. V's response is gleeful, "Here we don't give them a chance to wait." When a patient at Aravind is advised surgery, the system is prepared to admit him the same day and operate the very next.

In Aravind's free department a young nurse bends to address a woman sitting on a bench, "Grandmother, please cover your left eye with your hand," she says. Her face is serious and she is intent on the task at hand. Now she waves two fingers inches away from the patient's nose. "How many fingers?" she asks. "Two," says Rukmini, peering between the fingers of her cupped palm. "No, no you must keep that eye closed!" says the nurse, at which the woman promptly screws shut both her eyes. For a villager who has never been to a hospital, much less undergone an eye exam before, the instructions to close first one eye and then the other, count fingers, and afterwards stare at a black and white illuminated cube covered with strange line drawings, can be quite mystifying.

For the actual refraction testing and glass prescription, Aravind uses automated refractometers that provide fine-tuned results. But for the initial rapid assessment, nurses use the finger test then

[12] Tidd, Joe et al, Managing-Innovation.com, *Aravind Eye Clinics,* 2005

alphabet-based as well as number-based Snellen's charts (the standardized vision charts used the world over). For patients unable to read their native alphabet or recognize numerals, Aravind resorts to the 'Tumbling E Chart', with rows of the letter 'E' in different orientations, diminishing in size from top to bottom. Patients are asked to sequentially indicate with their fingers the direction in which the prongs of the letter are pointing.

After a more successful go-around, Rukmini uncovers her eyes, and blinks a few times. She is wearing a faded red cotton sari and no jewelry. Her face is sun worn, wrinkled and wears an ancient expression. There's something more in her right eye that catches attention. "Cataract," says the nurse briefly, before helping the woman to her feet. " Grandmother, walk this way, we're going to see the doctor now."

By tomorrow, Rukmini will have a green post-surgery patch covering one eye.

There is a palpable, almost oceanic, quality of calm in Aravind's operating theaters; gowned and masked doctors and nurses flit through the shining hallways, tranquil patients with eye patches wait on stretchers or in wheelchairs. Considering they are about to go under the knife, there is a curious absence of anxiety or tension in the air. 'Here to Nirvana', a whimsically titled guidebook for spiritual destinations in India, includes an entry on the Aravind Eye Care System. Visitors have often referred to the organization as a temple for sight.

The nurses have been at work since 6:30 am, setting up the theaters and prepping the patients. Each theater has four operating tables lined up parallel to each other, two tables to a surgeon. Chief of Aravind's Cataract Services, Dr. Haripriya, sits on a stool, her gaze locked into a surgical microscope trained on the eye of the patient on her operating table. Above the blue mask, only her eyes with finely arched eyebrows and the tear-shaped *bindi* between them are visible. Another surgeon is similarly positioned at the far end of the room. In a few minutes Dr. Haripriya looks up. The operation is done, a nurse helps the patient off the table and the long arm of the surgical microscope swung over to the next patient, already prepped and waiting on the second operating table.

Purusottam Lal Bhudo is a seventy-five year-old man from Jharkhand, a northern state roughly 800 miles away, who has elected to pay $300 (mid-range price) for his treatment. Cataract

surgery takes place under local anesthesia, in this case, topical drops that have already been administered by an assisting nurse. Draped in a green surgical cloth, Bhudo is silent but awake. Before the surgery a circulating nurse reads out details of his case to the surgeon. At Aravind a team of four nurses supports each surgeon. Two assist the surgeon directly, and two circulating nurses (shared with an adjacent surgeon) are responsible for bringing in fresh sets of sterile instruments. Aravind's nursing staff handles 70% of all the activities that take place in the theater.[13]

The surgery Dr. Haripriya is performing is a phacoemulsification (phaco) surgery, an elegant technique with excellent visual outcomes. Its minimally-invasive, high-tech approach delivers ultrasound through a microscopic surgical hand-piece controlled by the surgeon via sophisticated software, to emulsify the large and hard cataract core. It enables the entire cataract to be suctioned out through a microscopic incision, measuring less than 3 millimeters in width. Phaco is a convenient, same-day procedure with rapid recovery rates. It is the gold standard procedure for cataract treatment in the West.

Haripriya deftly makes an incision and inserts the needle-like ultrasonic device to pulverize the hardened cataract. She aspirates the shattered pieces before suctioning them out. One of the assisting nurses leans in to irrigate the ocular surface. Using a series of delicate, silver instruments, Haripriya folds and inserts a synthetic intraocular lens through the incision, and adjusts it for a perfect fit. No sutures are required; the tiny incision is self-sealing. Through all of this, the assisting nurses have handed instruments to the surgeon in rhythmic sequence, anticipatory motions so smooth that the surgeon's eyes don't lift from the microscope. A choreographed exchange between gloved hands. Barely a word is exchanged between them.

"It's very hot," mumbles a freshly-operated-on Bhudo, under the white glare of the overhead lamp. "Don't worry, we're almost done," Haripriya murmurs. Within moments Bhudo is helped off the table, and led to his room by a reassuring nurse. Time taken for entire operation: less than six minutes.

[13] Tidd, Joe et al, Managing-Innovation.com, *Aravind Eye Clinics,* 2005

Haripriya swings the microscope over to the table on her right, where her next patient is ready. The assembly-line process has reduced lag time to only 1 to 3 minutes at Aravind, versus an average of 15 minutes at other hospitals in India.[14] Through experience and constant tweaking, Aravind has identified key factors that boost surgical productivity and standardized its processes accordingly. It knows, for instance, that if a team of one surgeon and two nurses is equipped with two sets of instruments instead of one, they can double the number of surgeries done per hour. With an additional nurse and four more instrument sets, they can quadruple their output.

"When I was a resident here, every day Dr. V would want to know how many surgeries I had done," says Haripriya who is married to his nephew, Dr. Aravind. "To be able to face Chief [Dr. V] I would try and do more and do better -- just to hear him say, on those rare occasions, 'Very good, Very good." In October of 2010, Haripriya was one of four surgeons from around the world (and the only woman) invited to Chicago to demonstrate live surgery at the annual gathering of the American Academy of Ophthalmology. Very rarely, and only with stringent qualifications, are surgeons from the developing world granted permission to operate in the West.

Cataract surgery comprises 67% of all operations performed at Aravind.[15] "All our surgeons help tackle the workload by doing cataract surgeries during the first part of the day, before moving on to cases in their specialty," says Haripriya, who typically handles the more complicated cataract cases. "It's part of the culture here. Everyone does cataracts." Aravind offers a full range of eye care services, including specialties like Cornea, Uvea, Pediatrics and Neuro-Ophthalmology, but the system ensures that all its surgeons (with the exception of its retina specialists whose surgeries are particularly time intensive) play their part in eliminating the world's leading cause of needless blindness.

"What I do here I can't imagine accomplishing at other hospitals," says the other surgeon operating in the theater with Haripriya, "These numbers are only possible because of the efficient

[14] Monitor Group, Inclusive Markets Team, *Aravind Eye Care case study*, 2008

[15] Aravind Eye Hospital Madurai, Aravind Eye Care System, 2010

systems in place – and the amazing work of our nurses." These factors enable a doctor at Aravind to perform over 2000 surgeries a year, compared to an all-India average of 350.

"*Amma*, your operation is over, it went well," says Haripriya to the woman on her table. The clock overhead reads 9:20 am; she has been operating since 8 am and is fifteen cases deep. This pace is not unusual at Aravind. By the standards of the rest of the world, it is extraordinary.

In the United States, Dr. David F. Chang is to cataract surgery what Michael Jordan is to basketball. His surgical speed, innovative techniques, research and teaching skills have made him a household name in the field. Having chaired the panel that developed the practice guidelines for cataract surgery, now used worldwide, he is a voice of considerable authority.

"Many eye surgeons in the United States perform 200 to 300 cases a year, averaging 30-45 minutes per case, including turnaround time in the operating room," says Chang, "Some, of course, are faster or slower, and the case volumes certainly vary, but these numbers wouldn't be atypical." By contrast, he averages 30 cataract surgeries a day, four surgeries an hour. "When Dr. Venkatesh, one of Aravind's top surgeons, visited us at UCSF and wanted to watch a top cataract surgeon operate, he was pointed to me because I do the most cataract surgeries in Northern California." Chang pauses for a moment and then adds matter-of-factly, "In the US, I am considered very, very high volume."

A few years later on his first trip to India, Chang would visit Aravind's newest hospital in the seaside town of Pondicherry and watch Dr. Venkatesh operate. "And of course, my own concept of high volume surgery was laughable in comparison," he concludes wryly.

Because there is no universal definition for 'high-volume' in the context of cataract surgery, Aravind formulated its own; in its system doctors who consistently perform more than 80 surgeries per day in six operating hours, are 'high-volume surgeons'. Dr. Venkatesh is one of the faster high-volume surgeons at Aravind. For him performing 100 operations in the span of a single day is not uncommon. He averages 3.5 minutes a case.[16]

[16] Aravind Eye Care System data, 2010

"I've been involved with every aspect of cataract surgery as it is performed in the US and in the western world," says Chang, "And I really did not expect to see the efficiency, speed, skill, and stamina with which surgery is performed at Aravind. I watched their surgical teams with amazement."

And more than anything, it is the model itself that David Chang believes has tremendous implications. "Aravind is not just about what one ophthalmologist or one eye hospital can do," he says firmly. "This model provides hope that we can solve the huge problem of cataract in the developing world. Unlike other seemingly hopeless challenges, here is a very tangible, affordable, and proven solution. Aravind is one of the greatest success stories in all of medicine." And it is a story Chang tells as often and as widely as he can. In 2005 he published an article provocatively titled "A 5-Minute, $15 Cure for Blindness"[17] that describes and validates the quality of M-SICS, a special type of cataract surgery that doctors at Aravind routinely perform on their non-paying patients.

By 2010, 75% of Aravind's paying patients were opting for phaco surgery.[18] But phaco machines are expensive to purchase and maintain, the cost of disposable supplies per case is substantial and the tiny incision requires using high-cost foldable lenses to replace the clouded lens that is extracted. For these reasons scaling the technique to *all* of Aravind's patients posed several challenges. But compromising on outcome quality by using an inferior surgical technique was not an option.

Aravind addressed the challenge by adapting an alternative surgical method that pre-dates phaco. The manual, suture-less, small-incision cataract surgery (M-SICS) that surgeons at Aravind have perfected uses relatively inexpensive equipment and supplies, including non-foldable lens implants (costing a fraction of their foldable counterparts). Like phaco, the modified M-SICS technique adapts the shape and size of the incision, removing the need for sutures, and ensures a self-sealing and quick recovery. Its clinical outcomes are comparable to phaco and have actually

[17] David Chang, "A 5-Minute, $15 Cure for Blindness", *Cataract & Refractive Surgery Today*, January-February 2006

[18] Aravind Eye Care System data, 2010

proved less prone to complications on mature cataracts (an advanced stage of cataract rare in the West but common in the developing world).[19] Additional benefits are that M-SICS is easier to learn and faster to perform – qualities well suited to Aravind's high volume setting. The technique is a key element of the broader Aravind model.

But there is more to the Aravind story that impresses Chang. He recalls meeting Dr. V during his first visit to Aravind, "He has an amazing aura. It was like being in the presence of a living legend. He brings a lot of energy and purpose to everyone he comes in contact with." Then the man who is arguably one of America's best-known eye surgeons throws in a rather anomalous observation, "I really think Dr. V's spirituality is an important driving force at Aravind."

Spirituality – it is a surprising element to bring up during discussions of comparative surgical techniques. But Chang was not the first person to pick up on this aspect underlying Aravind's work, and he certainly would not be the last.

[19] Yorston D, "High-volume surgery in developing countries", *Nature*, 2005, v19, 1083-1089

CHAPTER 2: WHEN FREE IS NOT ENOUGH

Dr. V named Aravind after the freedom fighter turned mystic, Sri Aurobindo. His progressive teachings and those of his collaborator, a woman widely known as the Mother (whose flower-like symbol is wrought in Aravind's gates and on the rings worn by the founding team), deeply informed Dr. V's own life and vision. Aravind is the South Indian variation of Aurobindo. The name means 'lotus,' a flower that, across many eastern traditions, signifies spiritual consciousness.

In 1980 Dr. V would write in his journal, "To some of us bringing divine consciousness to our daily activities is the Goal. The Hospital work gives an opportunity for this spiritual growth. In your growth you widen your consciousness and you feel the suffering of others in you." He frequently refers to this concept of divinity and approaching the divine through work.

Jacqueline Novogratz, the dynamic founder of the Acumen Fund, once asked Dr. V directly about his conception of God, "He told me that for him, God existed in the place where all beings were interconnected," she writes, "He was able to fuse the power of an unsentimental approach to treating poor people in the most effective way, with the moral imagination to see people, really see them, and listen to their needs and dreams. In this way, I think he saw godliness and beauty in all people and all things."[20] Dr. V's quest to eliminate blindness was fueled by this view of humanity and by his deep empathy for the suffering that blindness inflicted on people – and particularly on the poor.

A significant percentage of India's cataract occurs in people under the age of sixty (compared to the average incidence age of seventy in the West).[21] Left untreated, cataract often incapacitates the sole breadwinner of the family; a tailor finds it impossible to thread her needle, a farmer can no longer sort his seeds and a carpenter's hammer does not connect with his nail. The global cost

[20] Jacqueline Novogratz, Acumen Fund blog post http://blog.acumenfund.org/2006/08/07/dr-venkataswamy-a-rare-life-remembered/, 2006

[21] Garry Brian and Hugh Taylor, "Cataract blindness – challenges for the 21st century", *Bulletin of the World Health Organization*, 2001, 79 (3)

of blindness in terms of lost productivity is a staggering $47 billion per year.[22]

Dr. V knows all the numbers and quotes them with ease, but he always moves quickly from abstract statistics to personal stories. The village woman whose husband abandoned her for a second wife when she lost her sight, the man whose sons refused to take care of him, the five-year old girl forced to cook in place of a mother who is blind and the sightless man who, when asked if he had eaten, replied that "he had washed his stomach," meaning he had swallowed the watery gruel that was his daily sustenance. In parts of India a cruel phrase is used to refer to a person who is blind: 'Someone who is a mouth with no hands.'

Sundari, a woman in her fifties lives in a small village at the foothills of the Western Ghats of Tamil Nadu. She has a beautiful face – sharp features, high cheekbones and wide eyes that look into yours with blue, sightless intensity. A daily-wage field laborer, she could not afford time off from work to undergo surgery. Ironically, when she lost her sight Sundari lost her job with it, and was forced to move in with her daughter. The guilt of being a drain on her family's resources was enormous. Sundari resorted to long periods of fasting, so as not to be a burden on them. Cataract left untreated for too long will sometimes rupture, at which point the blindness becomes irreversible. Sundari's condition is now incurable. Hers is exactly the kind of story that haunted Dr. V. He had witnessed far too many people devastated by the triple loss of eyesight, livelihood, and a sense of self-worth. He knew these things could lead to even graver losses. Blindness, as one public health expert pointed out, can be a fatal disease in India. Loss of sight and its attendant trials can strip the already poverty-stricken of the will and means to live. Life expectancy is reduced to a few years after blindness sets in.

And then from a public health systems standpoint, 70% of India's population is rural, while 80% of the country's medical services are situated in urban areas.[23] The problem of service delivery is framed by this drastic imbalance along with several other challenges. How do you sustainably

[22] Barbara Boughton, "WHO Cares: Ophthalmology Struggles to Meet Global Need", *EyeNet Magazine, American Academy of Ophthalmology*, November-December 2008

[23] Harvard Business School, *Aravind Eye Hospital, Madurai, India: In Service for Sight*, 1993; India 2001 Census data: http://censusindia.gov.in/Census_Data_2001/India_at_glance/rural.aspx

serve, with limited money and personnel, a large population that is poor, in need, and difficult to access?

In an Aravind classroom, Thulsi is addressing a group of international eye care providers. Projected on the screen is a picture of a young African girl in traditional attire. “What do you see?” Thulsi asks the audience of administrators and ophthalmologists in front of him. “A young female with mature cataract,” comes the immediate answer. ‘Look closer, what do you see?” he asks again. Someone from the group offers up a detailed clinical diagnosis of the girl’s condition. “Is it treatable?” Thulsi inquires. “Of course, sir!” comes the surprised response. “What else do you see?” he presses. But no matter how hard they peer at the screen, no one picks up on what he’s looking for. Eventually he uses a laser pointer to highlight it -- the unusual earring that dangles from the girl’s right ear. There is no mistaking that familiar shape. It is the metal tab off the top of a can of Coca-Cola. “What are you looking at?” he asks, one final time. The room is intrigued and silent. “You’re looking at our collective failure,” says Thulsi, his clear voice ringing in every corner of the room, “We have the knowledge and the skills to help this girl. But we didn’t. Coke got to her – why couldn’t we?”

“If there was anyone in the world who really understood the core necessity of social marketing, I think even before the term was invented – it was Dr. V,” declares a long-time Aravind volunteer. “He placed a strong focus on the non-customer,” adds Thulsi, “The people who need care but who are not in the service loop. Dr. V wanted to design our systems to bring them in. So our energy and marketing focus, if you want to call it that, was directed at them.”

Early in Aravind’s existence, Dr. V began making weekend trips to the villages surrounding Madurai. He ploughed the organization’s meager earnings into free cataract operations for the rural poor. Over three and a half decades, those Sunday excursions have evolved into a massive outreach operation that dispatches teams of doctors and nurses to far-flung communities to screen patients. Those requiring cataract surgery receive it at no charge. Aravind conducts roughly 2,100 such screening camps across the states of Tamil Nadu and Kerala every year, averaging forty camps each week. The significance of these arterial efforts within the model is non-trivial.

About 50% of all the surgeries ever performed by Aravind have directly benefited patients brought in through its outreach camps. Currently camps ferry in approximately 78,000 patients a year.[24] "Our systems depend on high volume," says Thulsi. If the numbers on the non-paying side significantly drop, then Aravind becomes less cost-effective as a whole. Everything here from the architectural layout of the hospitals, the method in which nurses and doctors are trained, and workflow in the examination and operating rooms benefit from, and in many ways hinge on, Aravind's high influx of non-paying patients. "It doesn't happen by accident," says Thulsi, "We design for it."

While giving away free service might appear an easy thing to do, Aravind's own experience proved the contrary."In the early days, we didn't know better," laughs Thulsi, " We would go to the villages, screen patients and tell those who needed surgery to come to the hospital for free treatment. Some showed up, but a lot of them did not. It was really puzzling to us. Why would someone turn down the chance to see again?" Fear, superstition, and cultural indifference can all be very real barriers to accessing medical care, but Aravind leadership was convinced that there was more to it than that. It took them a few years and several ineffective pilots of door-to-door counseling before they arrived at the crux of the issue. "Enlightenment came when we talked to a blind beggar," says Thulsi. When pressed on why he had not shown up to have his sight restored, the man had replied, "You told me to come to the hospital. To do that I would have to pay bus fare, then find money for food and medicines. Your free surgery costs me 100 rupees."

Following that revelatory conversation, Dr. V initiated a study to determine the real barriers to cataract surgery. The research found that transport and sustenance costs, along with lost wages for oneself and an accompanying family member, were daunting considerations for the rural patient. Aravind learned a valuable lesson: Just because people need something you are offering for free, it does not mean they will take you up on it. You have to make it viable for them to access your service in the context of their circumstances.

So Aravind retrofitted its outreach services to address the chief barriers. In addition to the free screening at the eye camps, patients were given a ride to the base hospital, surgery, accommodation, food, post-operative medication, return transport and a follow-up visit in their

[24] Aravind Eye Care System data 2010

village, all completely free of charge. “Once we did that, of course, our costs went up,” says Thulsi, “But more importantly, our acceptance rate for surgery went up from roughly 5% to about 80%.” The approach Aravind took is one he believes is relevant for any kind of development work. “In hindsight we found two things are critical,” says Thulsi crisply, “You have to focus on the non-user, and you have to passionately own the problem. You can address the barriers only when you own, not shift, the problems.” Paradoxically, that mindset led to what is perhaps the most collaborative outreach system the world of eye care has ever seen.

Aravind’s outreach model converts grassroots leaders into active partners, and turns local hubs of community life -- elementary schools, movie theaters, wedding halls, and factory workrooms - into screening sites. Vision testing and spectacle dispensing units are set up under trees, and high school volunteers, alongside local Rotary or Lions Club members, are recruited to oversee crowd management and registration. Creating ownership in the community takes time, but pays off enormously in terms of a program’s credibility, sustainability and scale. Today, Aravind’s outreach program boasts a 500 member strong network of camp sponsors spanning a diverse group of non-profits, industrial companies, religious bodies, universities, families and individuals. They shoulder several support functions crucial to the success and smooth functioning of these camps, including publicity campaigns, venue selection, and boarding and lodging for the medical teams. “It is a fundamental rule that every camp, even our very smallest, is done with active leadership from within the community,” says Thulsi. Each Aravind camp has a community sponsor with whom Aravind shares branding and a small percentage of costs. This practice creates deep local ties, builds trust, facilitates onsite planning and trouble-shooting and helps ensure maximal community attendance.

Today, though there are at least 40 other eye hospitals running outreach initiatives in Tamil Nadu, their numbers straggle far behind Aravind’s. The main differences are ownership, funding and accountability. Aravind splits ownership with the community but covers the bulk of the operating costs for outreach camps itself. Most other hospitals retain total ownership of the camps and fund them almost exclusively through external donations. Usually there is little pressure on them to hit targets or account for return on investment in terms of patients served. In Aravind’s case, it goes to great lengths to ensure that costs are optimally utilized.

Given economies of scale and the spreading of fixed costs over more people, the more patients Aravind serves for free, the less it costs per patient. Camps are a good example of how this works. Aravind tracks the "case-finding cost" per patient for every camp and goes to great lengths to ensure that costs are optimally utilized. To admit a patient from Aravind's eye camps for surgery works out to roughly Rs.270 ($6). The numbers are closely monitored because a dip could send that same figure skyrocketing to as high as Rs.400 ($8) per patient.[25]

For over a decade all the founding team were heavily involved in outreach; hailing from village backgrounds themselves, they viewed the community as an extension of the organization. They stress how the success of these camps hinges on the empowerment, and not the dependence, of leadership in the community. "When you first start working with the community, it is very important to make sure that you are the one holding their hand – and not the other way around," says Dr. Natchiar briskly. She is Dr. V's youngest sister, and one of the founding members of Aravind. "If you hold their hand then you can let go once they are on their feet. If they hold your hand, then it is harder for them to let go."

Dr. Natchiar holds the camp activities close to her heart and has an endearing bias for Aravind's rural patients. "Rich people don't bless us," she says squarely, "They just demand our expertise. The poor take it as a gift." She flashes the trademark smile that wins people over despite her bluntness. "It's the love of the common people that has helped us to grow," she says.

As dawn turns gold on the horizon, the Aravind van turns down a narrow street in the small town of Kallupatti and pulls up next to a fluorescent green building. There are already more than fifty people waiting outside today's screening site – a sizeable wedding hall with plastic garlands of marigolds and roses decorating the entrance. Two doctors and half a dozen nurses pile out of the Aravind van, assess the layout of the building and begin to set up. Wire frames canopied with black canvas serve as refraction cubicles, and a desk to one side for patient counseling. A corner of the wedding hall is designated for grinding and fitting spectacle lenses, and up front, black and

[25] Aravind Eye Care System data, 2010

white charts are put up for preliminary vision tests. There is a table for the doctor examinations and a long bench for glaucoma screening.

The first patient enters at just past 9 am. Within ten minutes all stations are engaged, and the mood of the crew is upbeat as local volunteers help guide the patients from one stage to the next. Today, this well-lit wedding hall has, for the 154th time, been converted into a highly functional screening eye camp. The owner, in his seventies, was a dedicated follower of Mahatma Gandhi. As a teenager, he had volunteered with Dr. V's early rural efforts. Now he heads a 50-member community group that conducts these camps on a monthly basis. Each camp costs the group a total of about $25.

The young doctor examining patients is kind, firm and efficient. When someone shows up with an advanced condition his face grows serious, "Grandmother, why didn't you come earlier?" he scolds gently, "Look how bad your eyes have become." A cup of hot tea cools in front of him, unnoticed. There are patients sitting to each side, and he swivels from one to the other, reminiscent of the operating table set up at Aravind. Taking his time with each person, yet managing to keep the flow moving swiftly. The patient stream is steady and the stories endless. They come from the thirty-odd villages in the area, people of bare feet and leathery brown skin, the women in bright saris, and several of the men leaning against long wooden staffs.

Pechiamma has four children. She also has diabetes and advanced cataract in both eyes. Karuppanan once had two cows, but now has cataract-impaired vision and no means of independent livelihood. Like three birds on a perch, come Ponnamma, Yelamma and Muthulakshmi from a neighboring village, dressed identically in white widow saris without blouses, thin, blue tattoos running the breadth of their foreheads and the length of their arms. All three have mature cataracts and the incongruous air of schoolgirls on an outing. On the other side of the room, among the post-op review cases, is Kuzhanthiammal, an old lady with a beautiful smile and no teeth at all. When asked for age, she hazards a good-natured guess, "I must be around 40 or 50, no?" A glance at her case sheet says otherwise. "Grandmother, it says here you're 80," says the nurse. To which Kuzhanthiammal gives an agreeable nod. "That could be true," she affirms. This indifference to mortal years is a common phenomenon in the villages, where time is marked not by calendar, but the cyclical seasons of sowing and harvest. Next in

line is sixty-year old Muthu, who after his operation last month was able to return to his work in the fields. The doctor has just told him all is well, and he is smiling broadly.

A patient survey conducted at Aravind-Madurai revealed that 85% of men and 58% of women who lost their livelihoods as a result of cataract successfully reentered the workforce after surgery.[26] Dr. V underlined the implications of this reality, urging his team time and again to understand the system of sight delivery as a whole. He urged them to not view surgery as an isolated end point but to see it as a single step in a much larger chain of interconnection. When a doctor restores sight to a woman who is able to work the fields again, her child has a better chance of going to school, and then, a better shot at finding a job that will break the cycle of poverty their family has lived in for generations. When a doctor, working with a team, gives sight to not just one or ten, but a thousand or tens of thousands, of such men and women, then not one family, but an entire village, district, state, eventually perhaps an entire country, will, in a small but significant way, be helped towards a better future. One of Dr. V's gifts was being able to see the transformation of a nation, one patient at a time.

By Aravind standards this is a medium-sized camp. It will, with whirlwind efficiency, wrap up before noon, and over half of the 207 patients screened will be advised cataract surgery. They will be sent by Aravind transport back to the Madurai hospital for free treatment. The leadership's grasp of the complex logistics involved, and the precision they have built up over the years allows these events to be scaled in size. Aravind's teams often screen up to a thousand patients at a single venue in the space of a few hours.

Five minutes to 3:30 pm, seven camp organizers file into the conference room on the ground floor of Aravind Madurai. Each one holds a spiral bound book that is a veritable encyclopedia of community based information: maps of territories, district populations, villages within each district, number of households per village, potential camp sites, suggested frequencies for camps in various locations, statistics of past camps (number of patients screened, number of cataract

[26] Javitt JC, Jamison DT, Mosley WH, Measham AR, Bobadilla JL, editors. *Disease control priorities in developing countries.* New York: Oxford University Press for the World Bank; 1993

surgeries performed, number of spectacles ordered), and much more. Camps at Aravind are not treated as casual philanthropic exercises. Senior management monitors their performance every week across an exhaustive set of parameters. Extensive number crunching takes place and there's a militant degree of accountability that enables the program's scale.

"We built our system based on problems and experience," says R. Meenakshi Sundaram (called RMS), Aravind's energetic Director of Camp Services. He joined the organization just out of his teens, and after close to thirty years in the field, knows the contours of this work like the back of his hand. RMS oversees a team of 25 camp organizers across Aravind's five hospitals; each of them is assigned a particular district or two and a population of 1-3 million.

A camp organizer's job is a blend of art, sweat and science that involves hitting rigorous targets, building rapport in the community, coaching new sponsors, organizing transport logistics, monitoring camp flow and ensuring patient satisfaction. They carry details of temple festival dates, school exam schedules, harvest periods and election days at their fingertips and are careful not to schedule an eye camp when there are competing community events taking place. "Using GIS, we can pull up detailed and layered maps – whether it's Kadamalaikundu, Tirppatur or Ottanchatram," says RMS, reeling off a list of quintessential small towns in Tamil Nadu. With this new technology, camp organizers can look up a region's population density, ease of access, centrality and most efficient transport routes at a glance. "And we can advise sponsors what routes to take for maximum publicity coverage," he says.

Dr. Ilango runs the camp meeting. His manner is relaxed but it is clear that nothing escapes him. Looking at coordinator Jeyaram's camp, he notices that 30 patients advised surgery were unwilling to come in. "That's a high number," he says and looks at the staff postings for the camp, "There weren't enough senior nurses on this team, what happened here?" Apparently they had been shuffled out due to a last minute outing planned by the HR department. "Make sure the next team we send there is really strong – we need to do better for that village," says Ilango.

Vivekanandan, another coordinator, reports on a camp where 351 patients showed up for a forecasted turnout of 350, and 104 were advised cataract surgery with a 92% acceptance rate. 68 ended up needing glasses, 100% of them ordered and received them on the spot. 13 specialty cases were identified and advised to visit Aravind for follow up.

Aravind's eye camps involve comprehensive screening not only for cataract but also other common eye diseases, like glaucoma and diabetic retinopathy. "Not enough specialty cases identified at this camp," Ilango says to another coordinator. "For the volume of patients screened, there should have been at least one glaucoma case. It means the doctors may not have been working right. Let's watch their trend and correct that if we need to."

The array of information is astounding, as is the determined wading through of minute details. "Hey, what happened here?" he asks the next coordinator. In a camp meant to cover 70 villages, only 47 villages had turned up. "What kind of advertising did you have the sponsor carry out?" "Newspaper ads, sir," says the coordinator, who is a new recruit. Ilango shakes his head, "Newspaper ads don't reach remote villages – those people aren't going to be sitting in the morning and reading the paper – they're going into the fields. You need to call up the village heads, print wall posters, do vocal announcements and that sort of thing." These are far from high-gloss advertising campaigns, but they work. One of the most popular, effective and cost-efficient forms of publicity is the hiring of auto-rickshaws to drive through hamlets and villages, blaring news of an upcoming eye camp over a loudspeaker.

That is how Ponni heard about the eye camp she attended. She is a cheerful, skeletal woman who is given to floral speeches and has all the makings of a ringleader. "I wanted to come to Aravind because I've heard the quality is good here," she says, smiling behind her patch, "Plus I get to come with people I know." Ponni is sitting in one of Aravind's dormitory-style wards reserved for camp patients. Around her, seated on colorful woven mats, are several other women from her area, including her cousin Thenmozhi. That kind of familiar presence is immensely reassuring and part of the genius of these camps. What is it like being away from home in a strange eye hospital? Thenmozhli laughs. She is not yet forty but had to be operated for cataract in both eyes. "We like it here," she says, "We have to work so hard back home. Being here is restful for us." That she considers the experience of eye surgery restful is strange, until you consider her regular life.

Most of these women are field laborers whose days begin before sunrise. Water must be hand-pumped and carried home, meals cooked over firewood, and children tended to, all before the backbreaking labor in the fields. Ponni stands up with an air of touching gravity, "Mark my words," she says, "I, Ponni, declare that every single camp that Aravind holds in our villages will

be a great success. Many people are scared to come for eye surgery, but we'll tell them what a fine job is being done at Aravind and how well they will be taken care of. Now you go ahead and write that down if you want and put the date on it." The impromptu testimony underscores the role that compassion and quality of care plays into the equation. Because regardless of whether a service is free or not, so much in the world of medicine depends on trust.

At Aravind the most impoverished villagers who receive free treatment are often its fiercest advocates – like Sambalingam who is barefoot, and wears a threadbare dhoti, shirt, and a pair of crooked glasses. His deeply sunken cheeks give him the endearing look of someone just about to whistle. This man's association with the founders of Aravind goes back a long way.

"I was practically blind, then they operated on me for free," he says speaking in colloquial Tamil, "I could see again and so I could work again." A grateful Sambalingam had promised Aravind's founders that he would bring more patients to them. This was in 1978, and every year since then, Sambalingam has been faithful to his promise. He brings in patients from his own and surrounding villages; sometimes in groups of five or ten, sometimes he escorts them individually. But he never turns away anyone who asks for help. "People trust me," he says. "Because they know that when I came to Aravind I had lost everything and was ready to start begging for a living. They saw me come back with my eyesight restored, and they saw the difference." With his sight restored, Sambalingam was able to return to working in the fields. He has embraced his self-appointed role as Aravind ambassador and is proud of it. A clip-on badge attached to his front-pocket reads: P. Sambalingam, Village Awareness Program Volunteer (Aravind started the program in the 1990s to train rural volunteers in patient identification and referral. It was discontinued after Aravind's eye screening camps gained traction, but several volunteers, Sambalingam included, have refused to call it quits.)

He says his personally escorting patients to Aravind helps immensely. "What do they know about this hospital and how it works and where they have to go? I know everyone here, right from the watchman at the gate to Dr. Venkataswamy and Dr. Natchiar -- and they all know me," he says beaming. Sambalingam unconsciously captures Aravind's own evolution when he says,

“In the beginning, I used to go around from house to house and village to village to find them. But then the Big Doctor (Dr. V), said to me, ‘You don't have to look for them, Sambalingam. They will come looking for you.' And that is exactly what has happened. Patients come looking for me. Whenever they have a problem with their eyes, I'm the one they come to.”

This man is in his eighties, and despite his age so full of energy and the conviction that he is part of something greater than his everyday existence. When asked how long he thinks he will continue to bring patients to Aravind, Sambalingam peers intently through his lop-sided glasses, “I can't tell you that I'll do it after I'm dead and gone,” he says firmly. But as long as I live, I will keep bringing more patients to Aravind.”

With patients from hundreds of villages regaining sight by the busload, Aravind’s reputation for community focus and service excellence grew exponentially. The camps drastically reduced the level of fear and uncertainty around accessing eye care, and prompted many rural patients to proactively seek out Aravind’s services. A phenomenon that Philip Kotler first dubbed the market-driven to market-driving shift. He named Dr. V, alongside Richard Branson of Virgin and Anita Roddick of Body Shop, as one of the rare visionaries “who saw the world differently, and whose vision addressed some deep-seated, latent, or emerging need of the customer. Rather than focusing on obtaining market share in existing markets, these market drivers created new markets.”[27]

Dr. V looked into the heart of the problem of needless blindness, evolved a nuanced understanding of those affected as well as their needs, and stepped forward to own the problem of service delivery of sight. Aravind’s trademark effort to meet people wherever they are is a quality that comes from his ethos. As a result, this organization knows that the price of a surgery doesn’t sum up the cost to the patient, that there are gradations of poverty just as there are gradations of wealth, that affordability is subjective, and that options bestow dignity. Its model

[27] Nirmalya Kumar, Lisa Steer, Philip Kotler, “From Market-driven to Market driving,” *European Management Journal*, April 2000, Volume 18

was built around a belief that every person has something to contribute, whether they pay you or not.

CHAPTER 3: THIS CASE WON'T FLY

"We're not a schizophrenic organization," says Thulsi, "we don't do one thing for our paying patients and another thing altogether for our free patients." The conventional paradigm operates on the premise that you get what you pay for. But Aravind's founders called for a different framework, where high quality is a given across paid, free or subsidized care. They also went a few steps further, making a choice not to brand the services separately and to house them under the same roof.[28] "If you set up widely separated facilities for pure paying or pure free then you split the culture. Doctors might want to work only in one place or the other. If we had distinctly separate hospitals it would be a lot harder to circulate staff between the two," says founding member Dr. Namperumalswamy. The mandate on equitable care means that no doctors within the organization are 'reserved' for paying clientele. All of Aravind's ophthalmologists rotate between its free and paying sections.

Fundamental to this model is a belief that providing high quality care is cost-efficient because it minimizes complications and the need for repeat visits while maximizing patient satisfaction and building trust. "Quality is how we sustain the demand," says Thulsi, "With our kind of volumes you can ruin your reputation very easily if you don't do good work." Dr. Aravind goes a step further to explain, "When you break it down, one out of four people who has had eye surgery in this state has had an operation at an Aravind hospital. That's a lot of people we need to keep satisfied!" The approach to quality that Aravind leadership stumbled upon while following the dictates of compassion, also proved to make sound business sense. Thulsi shares that word-of-mouth spreading through Aravind's satisfied patients has proved one of its most effective forms of marketing.

In his book 'Quality is Free,'[29] Philip Crosby discusses the common organizational error of viewing quality as a shimmering intangible that defies measurement. He argues that quality is "a conformance to requirements" that demands "unblinking dedication, patience, and time." Taking

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[28] *Aravind-Madurai is the single exception to this, given the unanticipated growth and limited available real estate it is the only one of its six hospitals that houses free and paid services in separate, though neighboring buildings*

[29] Crosby, Philip. *Quality is Free: The Art of Making Quality Certain.* New York: McGraw Hill, 1979

that approach to quality, Aravind management would create unusual protocols and systems that are stringent even by the standards of western health care.

In many settings, quality and quantity are assumed to have an inverse relationship. But several research studies in the medical field, and specifically in cataract surgery, validate what most surgeons know to be true for themselves: the more you do, the better you get.[30] Aravind's own work consistently demonstrates that high quality medical care can be fostered, and not undermined, by an enormous patient load.

In "Fortune at the Bottom of the Pyramid", C.K. Prahalad published the results of a like-for-like assessment based on surgical data from Aravind and a 2001 National Survey in the UK by the Royal College of Ophthalmologists.[31] The comparison was for adverse events during and within 48 hours of surgery, across 16 different complication types. In every single instance, Aravind demonstrated a lower complication rate than its western counterpart.

In the context of India's largely unregulated health care system, Aravind's founding team created their own quality benchmarks for the organizations and soon developed a reputation for being infamous sticklers. As Fred Munson, a long-time Aravind volunteer and Professor Emeritus of Hospital Administration at the University of Michigan, recalls, "Starting with Dr. V, the whole family has developed this passion for quality. Young residents actually have churning stomachs when they know Dr. Natchiar will be visiting the surgical room to observe their work."

For roughly twenty years, Dr. Natchiar was a one-woman quality assurance team, making bi-yearly inspection visits to all of Aravind's five hospitals and scrutinizing each of the 23 departments – looking at everything including surgical complication rates, research data for clinical studies, employee turnover statistics, camp transportation costs, linen-washing expenditures, and the nutritional value of food at the nurses' hostel. "Then I realized I was getting old and needed to delegate," she says, laughing. In a move to rely less on churning

[30] Bell CM et al, "Surgeon Volumes and Selected Patient Outcomes in Cataract Surgery: A Population-Based Analysis", *Ophthalmology,* March 2007 Volume 114, Issue 3, 405-410

[31] Prahalad, CK. *Fortune at the Bottom of the Pyramid.* New Jersey: Wharton School Publishing, 2005

stomachs and more on systematic data collection and review, Aravind's Parameters Program was born in 2006. Now handpicked teams of three senior staff are appointed to audit each hospital over a period of three to five days. They inspect and investigate across all departments, and provide individual feedback reports to each hospital. Best practices are shared from hospitals that score the highest across specific categories.

"Mandatory measurement and reporting of results is perhaps the single most important step in reforming the health care system," write Michael Porter and Elizabeth Teisberg in their book 'Redefining Health Care'.[32] It is a perspective that has long met with suspicion, if not down right outrage, in the medical world. Author Charles Kenney eloquently sums up the typical line of opposition, "There's no assembly line in health care. We're not making cars, we're dealing with human beings and every patient is different."[33] A departure from that resistance to measurement and standardization is part of what makes the content of Aravind's weekly cataract meetings unusual.

The cataract department at Aravind-Madurai handles 67% of the hospital's patient volume. Its ward and operating theater nurses meet with Dr. Haripriya (Chief of Aravind's Cataract Services), on a weekly basis to review performance data. Quality across both the free and paying divisions is measured and scrutinized across the same rigorous set of parameters. Spreadsheets break down the overall totals and percentages of surgeries, complications, re-surgery and infection rates across theaters and wards. They are backed by a drill-down on data that compiles the specifics of each case, including: the names of the surgeon and assisting nurses, the stage at which the complication occurred, how it was handled and by whom, as well as post-operative outcome. There is an element of sleuthing to the whole process. Patient records are produced as evidence; nurses are called on for first-hand accounts and a gentle but incisive interrogation from the department head ensues. At which step did a complication arise? Was it in the surgeon's third or thirtieth case of the day? Probing these details allows the management to spot occasional cases

[32] Porter, Michael and Elizabeth Teisberg. *Redefining Health Care: Creating value-based competition on results.* Boston: Harvard Business School Press, 2006

[33] Kenney, Charles. *The Best Practice: How the New Quality Movement is Transforming Medicine*. New York: PublicAffairs, 2008

of surgeon fatigue and adjust caseloads accordingly. It also alerts them to surgeons who might be faltering repeatedly at a particular step, in which case arrangements are made for targeted retraining.

While it is not mandatory for Aravind surgeons to attend these meetings, they must sign off on the details relating to their complications. The records are available to everyone, from the most senior medical officers, to the residents and trainees. "The idea really is to show relative performance and to make it transparent and accessible," says Dr. Haripriya. Her husband, Dr. Aravind, also a high volume cataract surgeon, adds context, "At Aravind-Madurai, a little more than 100 doctors, 80-90 operating nurses and 40 refractionists, basically more than 200 people, access this data regularly. So the focus on quality really gets into your subconscious. People compete in a positive way to do better surgeries and bring the best to the patient."

"My sense is that what's really unusual about this is the level of transparency," says Thulsi. "Typically that isn't comfortable for doctors. But the idea is really to use the data to look for patterns. It's about fixing the system, not the individual." Thulsi talks about the use of data to identify patterns, and how this translates into systemic change. He provides a telling example from the mid-nineties, at a time when suture-less surgery was not yet the standard practice at Aravind. Data on post-operative repeat visits triggered a concern that patients were being asked to come back to the hospital more times than necessary. "Some hospitals take pride in saying that they see a patient ten times post-surgery," Thulsi says. That approach he argues can actually mean more trouble and expense to the patient than convenience.

Aravind conducted an in-depth examination of all its post-op repeat visit data. The records showed that a majority of visits were suture-related problems. "So we went back and looked at the monthly data linked to sutures," says Thulsi. It showed that applying less than five sutures resulted in problems. "In a thousand cases we're talking about ten complications, so obviously this wasn't a pattern visible at the surgeon level. It is the data that showed it," he points out. On discussion, senior surgeons maintained that suturing quality was a matter of skill and experience. As an initial intervention, the application of a five-suture minimum was mandated for all junior surgeons, while senior doctors were permitted to continue with three. The following month's data yielded unambiguous results, "It turned out seniority didn't matter. All the complications we saw were across three suture cases," says Thulsi. The findings resulted in a five suture minimum

requirement across the organization -- a powerful example of data-driven decision-making, and as Thulsi laughingly puts it, "It really helps cut through ego in the organization."

Year-by-year, complication and infection rates at Aravind have consistently decreased. In 2009, across a total of over 180,000 cataract surgeries, its infection rate was .03%. In the same year its specialty surgeries numbered upward of 51,000 with an infection rate of 0.025%.[34]

Investing in the patient experience is also fundamental to Aravind's view of quality. Thulsi points out that while patients naturally tend to be insufficient judges of clinical quality, they can certainly tell you whether or not the sheets in their room were clean, whether the nurse who assisted them was courteous and if their doctor was on time. In a hospital, hospitality is a big part of the picture. It helps that a sense of ultra cleanliness asserts itself within the walls of Aravind, despite the level of activity and heavy patient traffic. Visitors accustomed to the dusty clamor of the streets outside are often surprised by the sense of space and graciousness its hospitals hold. "Patient satisfaction is one of the strongest measures of non-clinical quality that we have," says Thulsi, "And that is where the concept of quality becomes important at every level within the organization."

Out-patient volumes, processing times and bottlenecks are monitored just as closely as surgical and clinical outcomes. On Dr. Haripriya's desk, a flat screen monitor displays a live camera feed of the waiting rooms. At a glance she can assess waiting room numbers. A clinical management software tool gives her access to dynamic patient registration numbers; it lets her compare these against yesterday's total, or to the same day of the previous year. If a patient has been waiting for more than an hour, his record on-screen changes to yellow; at two hours it turns red – an immediate flag. The program also tracks how many patients each doctor is screening. Not for financial compensation purposes, but to ensure efficient case distribution. This software, like many of the systems in place at Aravind, facilitates speed of responsiveness, and allows for data to drive continual improvement.

In 'The Best Practice,'[35] which traces the story of the quality movement in western medicine, author Charles Kenney points out one of the greatest barriers to improvement. "As long as

[34] Aravind Eye Care System data, 2010

doctors and hospitals are paid for volume of procedures rather than for quality of outcomes they have little incentive to change." In the interest of protecting quality outcomes in a high volume setting, Aravind does one very important thing differently from most other hospitals. It deliberately delinks a surgeon's salary from patient load. There are no volume-based incentives. And yet, these surgeons still number among the most productive in the world.

Aravind strives to provide high quality services to all, as an integral part of what its mission demands. "Most organizations exist for a purpose, but operationally chase a bottom line that is different from that purpose. One big lesson we have learned is that you must chase your purpose. Make that the core of your energy, and build your systems to be sustainable from all dimensions. Then the bottom line takes care of itself," says Thulsi.

Whenever the bottom line "takes care of itself," the business world cannot but help be intrigued. This might explain why, in 1993, a curious visitor from Cambridge, Massachusetts arrived at Aravind's doorstep.

The professor lifted the latch on the gate outside the Aravind Guest House in Madurai as quietly as possible. It was only 10 pm, but people went to bed early here, and were often up before sunrise. On a whim, he had followed a friend's lead to Aravind. Slipping out of his shoes on the front porch, his mind churned with assorted images from the day – Aravind's gleaming operation theaters, the swift efficiency of the sari-clad nurses, the long queues of patients and of course, his first meeting with Dr. V. He had started the day early to get a sense of the patient flow. 7 am and there were already more than 100 people in line for registration. The elderly man hobbling among them, helping a patient here, answering a question there, was the organization's founder. What a man. Shaking his head a little, he walked into the living room of the guesthouse, wondering why the lights were on. "Good evening, good evening, Professor!" The newly familiar voice stopped him dead in his tracks.

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[35] Kenney, Charles. *The Best Practice: How the New Quality Movement is Transforming Medicine*. New York: PublicAffairs, 2008

A little jet-lagged from his travels, a little tired from the long day, and more than a little startled by the unexpectedness of the greeting, Harvard Business School's Malcolm P. McNair Professor of Marketing, Kasturi Rangan, known to friends, students and colleagues as 'Kash', stared uncomprehendingly at the upright grey-haired figure seated on the sofa, smiling up at him with impish merriment. He cleared his throat slowly, and then said, "Good evening, Dr. V".

Many years later, in 2007, sitting in his large, book-filled Cambridge office at Harvard, Kash Rangan looks back at that moment and laughs. "I couldn't understand why he was there," he says, "I knew it had to be way past his bedtime, but there he was, sitting up waiting for me, and wanting to talk."

What Dr. V wanted to talk about also came as something of a surprise. "Spirituality wasn't what I was there to study," Kash says bluntly. "I needed to know about the finances, the number of surgeries and so on. But when I steered things in that direction he'd tell me to ask his nephew, Thulsi about those things. He wanted to talk about Sri Aurobindo and the evolution of consciousness, things which had absolutely no relation to why I was there. Or he would talk about the poor, how we had to get to them earlier. He never seemed to wonder or worry about how that would happen," he says. "Every night, for the three nights I was there, Dr. V would come by after dinner. What was a puzzle initially gave way to admiration. Why would this amazing human being want to lose sleep sharing all this with me – a business professor who wasn't exactly in the same spiritual league as him?"

Kash spent time observing Aravind's systems and processes. He watched surgeries, went out into the villages with eye camp teams, talked to patients and interviewed senior staff members to build up the repository of data he would need to architect a convincing case. He returned to Cambridge with all his notes and proceeded to write a case study that was twenty-six pages long.

Somehow the nocturnal discussions with Dr. V worked themselves into the case study. Kash had not planned on this. It was just that when it came down to it, he felt a twinge of guilt at the thought of leaving it all out. Meditations on spirituality, Gandhi, family and service interspersed the 'business' part of the text. When completed, he shared it with colleagues for feedback. "It's excellent," they told him, "But nobody likes long cases. Just take out all the stuff about spirituality. It's not central and will cut the length by about five pages."

Kash went back to his desk to make the cuts, and found that he could not bring himself to axe any of it. "A seventy-four-year-old man stayed up late to drill these things into you. I may not get his logic, but I want to honor it." He left it all in. The first time he wanted to teach the case as part of a mandatory first-year marketing course at the Harvard Business School, seven-to-two the faculty voted against it, saying, "No – this case won't fly". But Kash was not ready to drop it. "I was too close to it, it resonated with my notions on what social entrepreneurs could do for society," says Kash. So the case would not be mandatory across the board, but he still had the latitude to determine his own teaching curriculum. "So I taught the Aravind case in my class – unedited. The students loved it," he recalls. Within the next three years, his colleagues lost their reservations. Suddenly, everyone was teaching the Aravind case.

For well over a decade now, each of the 900 or so students who pass through Harvard's MBA program every year have been handed "In Service For Sight". Since its publication in 1993, Harvard Business School has distributed more than 150,000 copies to the top twenty business schools in the United States.[36] When it started a management course for entrepreneurs, the case was required reading. From there, its popularity caught on, in Kash's words, "like wildfire." The normal life span of a case is three, maybe four, years. This one has lasted seventeen and is still going strong. "It has longevity," says Kash, "Dr. V's passion and vision make it timeless."

But that was not all. The first time the case went live in a classroom, it all started to make sense. "Everything revolved around the things Dr. V was talking about. When we started trying to piece it together it became more and more evident. This man's spirituality wasn't incidental to the story. It was what everything else hinged on," Kash said.

"Businesses can gain three important advantages by serving the poor," wrote C.K. Prahalad in Fortune at the Bottom of the Pyramid, " a new source of revenue growth, greater efficiency, and access to innovation." Citing Aravind as a powerful example, Prahalad makes an argument for models that target the poor, framed according to typical business objectives and a line of inquiry that asks: "How much can we get for what we give?" At Aravind that question expertly flips to: "How much can we give for what we get?"

[36] Interview with Professor Kasturi Rangan, April 2010

In seeking a sustainable answer to rid the world of one form of suffering, Dr. V and his team formulated a high-volume, high-quality, low-cost approach to eye care delivery. A model that overturned typical assumptions of what it means to provide free care. He focused on reaching the unreached, and closed the accessibility gap by removing barriers to care whenever possible. He shaped eye camps to tap latent community resources and converted eye care needs into active demand. To treat such masses of people efficiently, he brought in assembly-line systems, skill-based task delineation, and a constant quest for refinement. With this came an insistence on measuring and monitoring results and making them transparent in unprecedented ways. These processes together drove up quality, trust, and service demand. Underlying all this relentless action is an awareness of how the work fits into the broader framework of society, how restoring sight restores people to meaningful places in their families and communities.

The questions you ask shape the answers you find. “How much can we give?” was not the end of Dr. V’s querying. A journal entry from the 1980s, written in a series of eclectic questions, illustrates how intertwined matters of service delivery, leadership and spirituality are to Dr. V. It opens with the magnificent obsession he is known for: “How to organize and build more hospitals like McDonalds.” And then with no warning, shifts to, “How was Buddha able to organize in those days a religion that millions follow.” The question dramatically changes the plane of enquiry and stays there. Other searching questions swiftly follow: “Who were the leaders. How were they shaped. How did the disciples of Christ spread their mission around the world.”

And then a final question that he would ask in a thousand different ways:

“How do I become a perfect instrument”.

The ‘high volume, high quality, low cost’ mantra works well as an elevator pitch for the Aravind model, but the reality is far more nuanced. It takes a deeper exploration to understand the context in which Aravind arose; how the culture of a family, its roots and values nourished the ethos of this organization. A radical framework and one man’s spiritual conviction guided its formative years. Aravind’s founding members would put everything on the line for a cause they believed in. “We were activists,” says Dr. V’s sister Dr. Natchiar, “Filled with that sort of do or die fighting spirit.”

PART II DO THE WORK, MONEY WILL FOLLOW: ON SUSTAINABILITY & SELFLESSNESS

Dr. V, before this trip I used to give things away to others sometimes, but only things that I didn't need very much. After meeting you and seeing what you have done, now I want to give my whole life to serve others -- the way you do.

– **Olivier de Cherisey**
Age 10, in an interview with Dr. V

CHAPTER 4: AN EYE DOCTOR BY SHEER ACCIDENT

Dr. V wears thick-soled black sandals. His toes, like his fingers, have been twisted permanently out of shape by rheumatoid arthritis, so something as simple as slipping in and out of his footwear is a small feat. Using the end of his walking stick he spear-holds the top of each slipper in place to ease his foot in. A bright green rubber band has been snapped, twisted, and tied around the toe-hold. He alternates this pair of slippers with another one that sports a red rubber band and is careful not to wear out either too soon, hence the rubber-band ID tags — a trivial particularity loaded with his distinct personality: his utter lack of vanity, his frugality, his passion for order and discipline in the smallest details. He has built those qualities in his family, and into Aravind. One morning, not long after he had undergone minor surgery, a grandniece kneels to help him ease the bandaged foot into the familiar green-banded slipper. As they work silently at this small task, it strikes her as it so often has before, that these psoriasis-scarred, arthritis-racked feet have come a very long way.

On October 1st, 1918, one day before Mahatma Gandhi's 49th birthday, in the small South Indian village of Vadamalapuram, Tamil Nadu, a child was born. His parents named him Govindappa Venkataswamy after his father, a well-respected contractor who owned land and cattle and was given to quoting the scriptures. His mother had dark-green tattoos on her arm and wore thick gold rings in her ears. She could add fractions in her head with ease, even though she had not been schooled beyond third grade. Only five of her eight children would survive to adulthood. The others died in infancy.

First-born Govindappa was followed by a brother, Nallakrishnan – now a successful engineer turned businessman who is on Aravind's governing board. Then came a daughter, warm-hearted Janaky. A born nurturer, she helped raise her siblings' children while a dream called Aravind was being built. The youngest brother, Srinivasan, came next : the one known later for the iron fist that controlled Aravind's costs, the one of whom Dr. V says time and again, "Without Srinivasan, we could not have done this." Then came Natchiar, the youngest child, born a full 22 years after Dr. V. She was a little girl when their father passed away, leaving the young medical student, Govindappa Venkataswamy, as head of the family. Natchiar grew up in her brother's care. He would pay her school fees, send her to medical college, and arrange her marriage. In

return she was his chief support through the most painful years of his life. Their connection transcends words.

Fragmented memories from his childhood have stayed with Dr V: the thatched roof of the family home, the pair of bullocks he escorted to the grazing fields at dawn, the scorch of hot sand under bare feet (he does not remember wearing shoes until college), and lessons written first in sand from the riverbed and later on bark with hand-fashioned twig-pens dipped in ink. But while the fabric and ethos of village life is dear to his heart, in telling his story Dr. V does not dwell on the details. In his words, these images from the past are mere "entertainment," irrelevant to the work of blindness prevention and by that token, insignificant. But there is one incident that does emerge, a sobering story with pivotal effects.

One morning, five-year-old Govindappa was awakened by the piercing cries of a young neighbor screaming in pain. Later that day he was told the woman had died in childbirth. "She was hardly twenty years old," he says, re-living that moment almost eight full decades later. "Such a young woman, and then you don't see her anymore." Soon after that incident Dr. V would lose three young cousins to eclampsia, an acute, pregnancy-related complication. There were no doctors in his village and no help for complications during pregnancy or labor. These losses troubled him deeply. They seeded in him the resolve to become a doctor, an obstetrician trained to prevent the tragedy of such untimely deaths.

He was a sickly child who developed lifelong psoriasis early on (a painful skin condition that causes the skin to itch and peel, leaving raw layers below, red and aching). His frequent illnesses meant keeping up with schoolwork was challenging. But what he lacked in physical strength, Govindappa made up in hard work. He was the first child from this sleepy, sunbaked village to pursue a higher education and the first to enter the white-coated dignity of the medical profession.

It was a tremendous era in which to come of age. In the 1930s, India was in the throes of its struggle for independence. The voice of a man who proposed fighting the British with truth and non-violence had carried across the country. Dr. V recalls being ignited by Gandhi's vision and example. The call to simple living, self-reliance and focus on inner transformation resonated deeply with him. "We started spinning yarn with hand *charkhas* (spinning wheels). We

boycotted foreign goods. There was picketing of liquor shops. I started wearing *khadi* (homespun cloth)," he says.

In 1944, Dr. V graduated second in his medical class and enlisted in the army as a medical officer. The pay was good and, as the eldest son, he felt a responsibility to support his family. But he had not forgotten his dream of becoming an obstetrician -- a dream that was destined to shatter in his prime, with an exponential increase in his own experience with pain.

Rheumatoid arthritis is a chronic, autoimmune disorder. Its exact causes are unknown, but it is generally understood to be a disease that prods the body's immune system to attack its own joints causing inflammation, pain and stiffness. In extreme instances it mutilates the shape and alignment of joints; fingers and toes move from their usual position, drifting away from the thumb and big toe, to twist and freeze in aberrant formations. Soon after India's independence and just prior to his discharge from the army in 1948, Dr.V developed the first frightening symptoms of this disease. It was to irrevocably alter the course of his life.

The timing could not have been worse. He had just turned thirty, was engaged to be married, and was to begin training as an obstetrician. Instead he was hospitalized and bed-ridden for close to two years. All his joints were so badly swollen that he could not sit, stand or walk. Even the slightest movement resulted in the most excruciating pain.

Natchiar was twelve years old when her brother fell ill. She left the village to take care of him. "In those days a lot of places had signs, 'Lepers Not Allowed'," she says quietly. "People mistook his psoriasis and arthritis for leprosy. Sometimes we weren't allowed into restaurants or trains. I used to cry myself to sleep on those days. How could people treat my older brother like that?" But the intense physical suffering and emotional devastation of those years are things Dr. V glosses over in telling the story of his life. When asked what it was like to witness his own crippling, and to realize that it barred him forever from his chosen career in obstetrics, Dr. V smiles and says succinctly, "It was difficult, but then you move on."

Dr. V moved on. His recovery was very slow, but eventually he returned to medical school. On the recommendation of senior colleagues, he joined the eye department instead of the maternity

department for further specialization. Operating on the eye required more nimble skill than physical strength in the fingers. With determination and will, Dr. V persevered through his illness and trained his gnarled fingers to hold a knife and cut the eye for cataract operations. "That's how I ended up in eye care," says Dr. V, "Sheer accident."

After returning to work, he quietly called off his engagement. Whatever the reasons, Dr. V never married. "Severe pain has been my companion and it has never left me," he once said, in a rare, raw admission. Perhaps this carved deeply into him the capacity to feel the suffering of others. He was known for heightened powers of empathy, and in the years that ensued, worked like a man possessed – haunted by the magnitude of blindness, the unnecessary loss, and his newfound ability to do something about it.

In the early 1960's, the government of Tamil Nadu became increasingly interested in eye care services for the villages and the concept of mobile eye camps was born. Dr. V – whose heart had always gravitated toward serving the rural poor – took on the responsibility of heading this new initiative. Cataract treatment at that time required a week-long recuperation during which patients needed to be fed, tended to, and nursed. Dr. V, then working at a government hospital, had a budget of roughly $15 (in today's currency) per camp, and with his team was operating an average of anywhere between 200 to 300 patients at each one. To screen, operate and feed these patients, provide them with post-operative medicine and spectacles, and also cover staff costs within that slender allotment, was next to impossible. But impossible had always been a rather dangerous word to dangle in front of Dr. V.

He took his medical team into the villages on this shoestring budget, and when costs went higher than they could afford, he dipped into his meager savings. Initially villagers were suspicious and the medical world, too, had its reservations. Dr. V was ridiculed for trying to popularize what colleagues derogatively referred to as "roadside surgery." But he steadfastly continued his work in areas of greatest need. "Identify yourself with all people in all villages. Not trying to exploit, but to grow with them," Dr. V urged himself in his journals. He and his team would begin operating at 5 in the morning and work without rest till 7 or 8 in the evening. Only then would they eat. And all of them would sit together, the doctors, nurses, the cleaning staff and the

villagers -- a highly unusual practice in India, where unspoken codes still segregate ‘low caste’ menial workers from ‘upper caste’ professionals.

The eye camps taught Dr. V a lesson he would never forget: when you begin doing the work you are meant to do, the resources will find you. Slowly, a powerful ripple of goodwill spread across these rural clusters. One by one, villagers came forward to help the young doctor. Community leaders offered to sponsor the costs of medicines and spectacles. Women told him not to worry about feeding the patients, declaring, “What are we here for? We’ll cook for all of you.” The rice mill owners offered rice, the oil factory gave them cooking oil, and others donated vegetables. “It was a People’s Movement,” says Dr. V.

That movement laid the foundation for a lifelong relationship with the community. “I was not greedy to take someone else’s money,” says Dr. V, “I was honest, sincere in my work and committed to helping the people who were poor. These things gave me a great advantage.” In explaining his achievements, Dr. V highlights his humblest qualities. Perhaps it was these unassuming traits that captured the attention of a blind man named Sir John Wilson. He would be Dr. V's mentor, and their friendship would shape the future of blindness prevention in the developing world.

John Wilson was born in England in 1919 and blinded at the age of 12, when his teacher accidentally gave him the wrong chemicals to mix during a lab exercise. Wilson went on to obtain a double major in Law and Sociology from Oxford University. Soon after graduating, he was hired by the Royal National Institute for the Blind – at the time governed by a board of sighted trustees. Wilson quickly earned a reputation for being a fearless advocate. When a trustee at a board meeting mentioned something about the institute "representing blind people," new recruit, John Wilson, had stood up, "You no more represent blind people than a butcher represents his sausages," he said.

After World War II, in his mid-twenties, Wilson was sent to tour Commonwealth nations to make a survey of people blinded in conflict. Everywhere he went he encountered the suffering of the sightless, and discovered a pivotal and surprising truth: malnutrition and disease were responsible for far more casualties of sight than the war.

The field of blindness prevention was still in its infancy. In the mid-1900s, there were almost no national programs in place to address blindness, much less a global initiative. In 1948 Wilson proposed forming the Royal Commonwealth Society for the Blind (now Sightsavers International), and served as its director for over three decades. He was knighted in this period and, along with his wife, Lady Jean Wilson, created organizations for the blind in 30 Commonwealth countries, pioneering scores of programs in the field. He was one of the most effective forces in the battle against needless curable blindness, and many people would be inspired to join him, Dr. V was one of them.

They met in 1965 in New York, at a meeting on rehabilitation for the blind. Between waiting for buses, taking elevators, sitting in meetings and riding in taxis, a ready friendship struck up between the two. "One of Sir John 's knacks was that he could meet anybody with ease, whether it was the President of a country or a beggar in the street," says Dr. V. It was not a gift he felt possessed of himself. Looking back, he reveals the surprising and deep-rooted sense of inadequacy that plagued him well into his career, "Lots of times I suffer from inferiority complex. I feel I am not an upper caste like the Brahmins. Then in the west that I am not the white class," he wrote in his journal.

Wilson's friendship with the young surgeon was instrumental in building Dr. V's confidence and strengthening his capacities. "Being brought up in a colonial country you are all the time looked down upon," Dr. V says seriously. "Sir John understood the problems. When I was a student, and when I was a doctor, the British were ruling us. It didn't occur to us to feel that we could do something as well or better than them. We had to work hard in our own way and build that feeling of: 'Oh! We *are* as good as people in London.' Sir John used to pull me up constantly – he used to say, let's go see this WHO (World Health Organization) meeting or -- let us see the Prime Minister."

Those blithely described invitations were part of a global movement. Wilson did not just go "see" a WHO meeting, he helped persuade the organization, along with all the funding agencies working in the field, to join forces and establish the International Agency for the Prevention of Blindness. He did not just have tea with the Prime Minister of India; he convinced Indira Gandhi to launch India's National Program for the Control of Blindness, the first nation-wide program for blindness prevention in the world .

" In my life he did a lot of work to mentor me," says Dr. V seriously, "You see, as an eye doctor I was not thinking of a national program or a global program. I just wanted to be a good doctor, and operate on the people who came to me. Whoever I could reach. But when he saw I was working with the community, he thought: 'Now here is a fellow who can be gradually molded to work at the national level.'" In this endearingly frank way Dr. V credits Wilson's keen intuition and steadfast support for gently knocking the blinkers off his vision. As he sees it this relationship activated his transformation from a government surgeon struggling to meet the needs of his immediate community into the man who believed he could help solve a global problem.

The Wilsons often visited India to be better connected with the work there. On one such visit, Lady Wilson remembers walking among the patients at an eye camp. "Venka [her name for Dr. V] was examining a patient, and as I walked past I saw him turn away, and there were tears pouring down his cheeks. I said to him 'Why Venka, whatever is the matter?' and he said, 'This child, if he had come to me 24 hours earlier, I could have saved his eyes.' It was a little boy with Vitamin A deficiency, and it was too late for him."

In cases of extreme Vitamin A deficiency, the corneal layer of the eye starts to soften and dissolve, literally melting overnight – a blinding condition called keratomalacia. Dr. V recalls the tragedy of seeing hundreds upon hundreds of young children with melting corneas – children blinded for want of a simple dietary component. His journals reveal the searing questions he asked of each loss, "Who is responsible for this child's blindness. She is hardly three months old. Perhaps the first baby for her poor parents. Both eyes are blind. Right eye perforation of cornea with iris prolapse, left eye cornea hazy and dry. They must have spent lot of money to come to [the hospital]. What work are they doing. Where did they go first. Why did they decide to come. What were they feeding the child. Did they realize the danger or risk. How we can help such people here after."

With Wilson's support, Dr. V started India's first residential, nutrition rehabilitation center in Madurai. Children with Vitamin A deficiency received extended treatment here while their mothers were trained in basic nutrition and were taught to prepare balanced, cost-effective meals using a kitchen garden. The project swiftly gained traction and similar centers were set up in a series of villages that helped improve child health and the early detection of Vitamin A deficiency. Susy Stewart, an Aravind volunteer, would write, "A handful of greens can save the eye. Don't forget the grandfather holding a two-year old the size of a newborn, already irreversibly blind, eyes murky white, never to see. Never forget the dedication of this staff, the nobility of their work. The Battle. Dr. V will set up camps throughout Asia. He is a man with purpose."

The rates of Vitamin A deficiency related blindness steadily fell, and today, such cases are rare in South India. Word spread about the success of the program, and Dr. V found himself with a string of international speaking engagements. As his reputation grew, so did the projects that landed at his doorstep. Soon he was running more than half a dozen government programs.

In the midst of all this, Dr. V managed to send two brothers to engineering college, put his youngest sister through medical school, and arrange for the marriages of all his siblings. He talked unceasingly to all of them about the work he saw ahead. For as Dr. V's experience grew, so did his vision for blindness prevention.

CHAPTER 5: GET LESS, DO MORE

In 2005, a man from Turkey arrived in Madurai and announced plans to set up twenty facilities like Aravind in Egypt – now could someone please tell him how much it would cost, so he could start buying the equipment and materials needed? If only setting up a system with Aravind's reach and impact were that simple. "Everyday I meet some people who want to change the world in two days – or two weeks," Dr. V once wrote in an email.

Most explanations of the Aravind model start at the middle of the story. They treat the founding of the Aravind Eye Clinic as the beginning and plunge from there into a fast-paced account in which a series of eye hospitals burgeon into existence, thanks to the financial viability of a revolutionary approach. The truth is that Aravind was built on Dr. V's track record of more than three decades of pioneering work at the village, state and national level. By 58, India's mandatory retirement age from government service, Dr. V had served as an ophthalmologist, educator, and a national public health figure for over thirty years. He had already personally performed over 100,000 surgeries, pioneered a hugely successful outreach model, trained hundreds of young doctors as Vice Principal and Dean of the Madurai Medical College, and been awarded a Padma Shree (one of the nation's highest honors).

But this man was not built for retirement. There was unfinished business in the field, and as a 1976 diary entry reveals, too many burning questions within: "Is it possible to provide cataract operations at a cost that the majority of people can afford. What would be the cost. What sort of paramedical workers will be useful. What facilities can be provided. Suppose we operate 30 patients per week how many beds do we need."

First, he would need a place to examine and operate on patients. He would also need nurses and doctors, builders and managers. Naturally he turned to his family. In addition to Dr. V's own siblings, Natchiar's husband, Dr. Nam, Dr. Nam's sister, Dr. Viji, and Dr. Viji's husband, Dr. M. Srinivasan (MS) would all join Aravind as well. To manage the hospital they formed the Govel Trust, a non-profit body named after Dr. V's parents. "Everyone cooperated – that was our big strength," says Natchiar, "The dream was Dr. V's but the dream became a reality only because of the family."

Aravind was started at a time when ophthalmology was an unattractive field. There was little money to be made in it, there was great need but low demand for cataract surgery, and

specializations had not developed. Given this climate, one of the enduring mysteries of leadership at Aravind is how a retired bachelor with no capital or business plan and a punishing work ethic, managed to sign up his entire clan to the task of eliminating needless blindness. “He was like a father to me and there was more respect for him than a real understanding of his values,” says Natchiar. She and her husband had both completed fellowships at Harvard University when they decided to join Dr. V. Cultural deference to the family patriarch was no doubt a large part of what informed their decisions, but there was more to it than that. “He told us we should serve the poor rather than work in a corporate setting.” Her sister-in-law, Viji, speaks frankly, “To tell the truth, we didn’t have time to think on our own, we only had time to do what we were told. And we believed what he told us was the right thing.”

“We must be the change we wish to see in the world,” said Mahatma Gandhi famously. Dr. V’s influence traces the outward spiral of a life lived in that vein. The suffering he had endured and transcended, his passionate commitment to serving the blind, and the ideals he lived up to, imbued him with a special magnetism. The founding team did not understand where Dr. V was headed, but they trusted him. In an implicit way they knew he connected them to something greater than themselves.

To build the first hospital, Dr. V mortgaged his house and his siblings pooled their life savings. Each of them put in 500 rupees (roughly $11 in today’s currency). When that was not enough, as his brother Srinivasan recalls, “I had to pawn jewels from the family in order to pay the construction workers every Saturday. We were not business people. We did not plan ahead, we did not know anything about costing or budgeting, so in the beginning, we had a lot of problems.” Dr. V’s team worked from dawn to well past dusk, a five-to-nine schedule, seven days a week. Operating at the hospital during the week, and in the village eye camps on the weekend, they did everything that needed to be done, including cleaning patient wards and restrooms. In the early years, each of them moon-lighted with government or private hospitals, supplementing Aravind’s meager earnings with this income. They forfeited many of the conveniences of success and lived simply. It was not an easy choice to make.

Nam describes the challenge of watching his peers climb up the ladder of material success in the initial ten years, while the team at Aravind continued to count every rupee. “At that time I didn’t even have a bicycle, let alone a scooter,” he says pointedly. “We would be at the bus stand and watch our former classmates drive by in their cars.” For an ambitious doctor supporting not just his own young family but also parents and siblings back in his village, it was a difficult period. “Our marriage was not smooth,” says his wife, Natchiar, frankly. “My husband was bright and knew he could earn more elsewhere. He adapted, but we had two young children and the tight finances always made it difficult. At that time we were not mature enough to fully understand the cause. So we would fight about why we were doing this for my brother. I would cry, but never tell Dr. V.” What could she possibly tell the man who refused a salary from the organization he founded? The austere bachelor, Dr. V made do with a tiny government pension. It did not occur to him that his siblings might have greater needs.

Ever since the early 1990’s, Aravind’s doctors have been compensated at roughly the market rate. But during the first decade, money was desperately tight and the founding team drew dismal wages. “I used to secretly complain to Fred Munson [an old friend of the family] about how tough it was,” recalls Natchiar breaking into laughter, “With his help we finally got a pay hike in the late 1980’s!” They would all struggle to raise their families in the midst of the unrelenting toil and scanty rewards of those years. Viji stationed a crib outside the operating room and nursed her ten-day-old son in between surgeries. Natchiar took her qualifying exams in a wheelchair, two days after a cesarean section.

Each of the founding team would gradually be chiseled by a work ethic that had nothing to do with financial incentive. “Dr. V always told us we shouldn’t have high charges,” recalls Viji, “‘Think of every patient who comes in as your aunt or your grandmother from the village,’ he would say, ‘Then automatically compassion will come. If that feeling comes then you’ll naturally do a good job.’” “When we started I asked Dr. V, ‘why do we need *five* ophthalmologists in such a small place?’” says Viji, who is now head of pediatric ophthalmology at Aravind, “And he said, ‘Wait wait we’ll see’. When I came back from my fellowship in the United States I asked him again, and again he said, ‘Wait, Viji, we’ll see.’ It was so frustrating. I couldn’t understand what we were waiting for … and then the growth started. Dr. V always seemed to know what was coming, way before we did,” she says smiling.

"One of our strengths was that all of us were from the village, so we knew how to talk to the villagers and they used to identify with us," says Nam, "The work load kept increasing because our reputation was growing." The team went to extraordinary lengths to make their patients comfortable. It was not uncommon for them to start surgeries in the villages at 1am, "Because the weather was so much cooler for the patients then," says Natchiar. Thinking back to the alchemy and labor of that era Viji's face lights up, "It was fantastic!" she exclaims, "Now we don't expect the same amount of work from our staff, but people should know how this place came up." She then offers up this gem of insight: "Dr. V always told us to keep charges low and see more patients to make it work., do more. That was our slogan." It was an approach that forced them beyond their comfort zones and demanded they each trade in small, individual dreams for a bigger, shared one.

There is a gradual, catalytic force unleashed when people put aside personal gain in service to a higher vision, day after day, month after month, year after year. That is why money cannot explain Aravind's success. What the hospital has accomplished today is not by virtue of its bank balance, but by, in some sense, its virtue – period. Like many of the founders, Viji's husband, Dr. M. Srinivasan (now a world-renowned corneal specialist), does not use the word "sacrifice." A man with a sharp mind, cynical exterior and little patience for small talk, he traces Aravind's work ethic to their agricultural roots. "Coming from farming families, traditionally, we all worked hard," he says matter-of-factly. "That was not a problem. We had to work all three hundred and sixty-five days. We weren't used to vacations. The Aravind culture transferred from the family to the hospital. It wasn't developed through special courses, education or retreats. It's in the blood."

People still pick up on that ethos decades later. "Hardcore-ness is one of the things I loved most about Aravind," says Arathi Ravichandran, a Public Health major from Harvard University who volunteered at Aravind in 2008. "There was an undeniable 'We need to do what we need to do' attitude. No cheesy, fluffy frou-frou notions of 'doing well by doing good;' it was kind of just – *Doing*."

CHAPTER 6: THE POWER OF CREATIVE CONSTRAINTS

When Professor Kash Rangan first visited Aravind he found a sophisticated, working model that no one there had fully discussed yet. Thulsi laughingly admits that the detailed strategic framework underlying Aravind's work was only outlined and articulated post de facto, to explain Aravind's success, not achieve it. But this absence of a traditional business plan does not make this organization a fortuitous accident. Its trajectory was directed by conscious, if unconventional, decisions, and one man's extraordinary compassion.

"Dr. V was able to get into the lives of the patients," says Natchiar, "Before they suffered, he suffered. 'Blindness kills a person every day,' he used to say. It takes away their sight, respect, and decision-making authority. Our job is not just to bring them vision,' he would say. 'How do we get them back their dignity?'" Dr.V's attempts to answer that question would decisively shape Aravind

"All meaningful design begins with empathy," says a man named Tim Brown, "And to me Aravind is a model of what can be achieved through design." Coming from him this is no small praise. Brown is CEO of IDEO, one of the most influential design firms in the world and he firmly believes that empathy has powerful implications on the creative process.

In 2005, on a tour coordinated by Acumen Fund, a non-profit that uses philanthropic capital for social investments, Brown made a visit to Aravind (Acumen had partnered with Aravind on a telemedicine initiative). "What I saw in India, and particularly at Aravind, played a big part in how I've moved forward with IDEO," says Brown. How so? "Innovation, in some fundamental way, is linked to constraints," he says, "And Aravind is an organization that operates within a *very* unique set of self-imposed constraints. That automatically eliminates ordinary solutions."

Brown's argument is compelling: empathy and self-imposed constraints can force you beyond obvious options. What you then get, he points out is "the chance of a breakthrough solution instead of an incremental innovation."

The developing world faces constraints of money, skilled labor, and other resources. But Brown is talking about something other than these obvious limitations, "Dr. V brought in his own set of constraints when he insisted on a particular mode of delivering care. He said it had to be high

quality, compassionate care, and that it also had to be affordable and sustainable," Brown says. He is calling out the unwritten "bonus" rules that Dr. V decided Aravind would follow:

1.We cannot turn anyone away
2.We cannot compromise on quality
3.We must be self-reliant

In summary these rules meant that whatever Aravind chose to do, it would have to do it with uncompromising compassion, excellence – and its own resources.

Today, there are numerous initiatives in India that provide free eye care to those in need, and at least a dozen of them offer quality that is world class. Where Aravind differs dramatically from these other efforts is in the magnitude of its work and its insistence on financial self-reliance. No other eye hospital in the world comes close to handling Aravind's routine outpatient and surgical volumes. By way of comparison, one of the most high-profile eye care organizations in India, financed largely by an extensive fundraising platform based in the United States, performed 670,000 free cataract operations in the first 24 years of its existence. In the same period, funded by earned revenue, Aravind performed more than five times that number of free and steeply subsidized surgeries, at no or very low cost to the patient. The comparison is important because ,within the Aravind model, self-reliance and scale are inextricably linked.

Financial self-reliance actually started out low on Dr. V's list of priorities. Certain unpleasant experiences bumped it up very quickly. His first application for a bank loan to start Aravind was rejected and his sole attempt at fund-raising yielded more embarrassment than riches. He had visited a neighboring industrial town to solicit donations and, "He came back with about 1500 rupees [roughly $33]," says his brother Srinivasan. "He said, 'Because people don't know us, they thought that this was some sort of begging.'" The misconceptions came as a painful shock. It had not crossed Dr. V's mind that people might view his fundraising efforts as an attempt to secure easy cash for his retirement.

In retrospect the sting of that experience proved invaluable. It spurred Dr. V to explicitly redefine the role of money in his organization. "We're not going to ask people for donations anymore," he announced to his brothers and sisters. "We just have to do the work. The money

will follow." It would become one of his most-repeated phrases: 'Do the work. The money will follow'. This serve-and-deserve rule of Dr. V's forced the organization into an improvised independence that actively fostered many of its novel systems.

Over more than thirty years of existence, Aravind has proved sustainable in multiple ways. It is an organization that has quadrupled its growth every decade, successfully navigated three leadership transitions, and consistently upgraded the quality and range of services provided. It demonstrates all the boons of sustainability: financial health, massive scale, continued relevance, and longevity. Naturally it is Aravind's financial sustainability that attracts the most immediate attention. In 2009-2010, Aravind made an operating surplus of approximately $13 million on revenues of $29 million.[37] A Forbes magazine article that same year pointed out its profits and called it, "a performance worthy of any commercial venture."[38]

In the field of international development, money can be a touchy subject. Many nonprofit organizations rely on external funding from individual donations, or grants from foundations. An unspoken assumption that business and charity do not mix, often gives rise to a tension between purse strings and heartstrings. But Aravind holds two seemingly contradictory values with ease: self-sustainability and universal access to its services. Dr. V seeded these values in the organization without a preset plan. But the founding team, over time, evolved effective systems for working within these conditions.

"In our experience, self-sustainability is a dynamic process, not a static end-point," says Thulsi, "It emerges from a complex interaction of organizational, technical and human factors."

Aravind's own financial health is a by-product of careful attention to pricing structures, free and paying patient volumes, effective resource utilization, standardization and an extremely cost-conscious leadership.

[37] Aravind Eye Care System data, 2010

[38] Karmali, Nazneen, "Aravind Eye Care's Vision for India", Forbes Asia Magazine, March 2010

The pricing strategy at Aravind goes beyond the traditional notions of free care. It positions free service not as a charitable handout, but as one of many options in a self-selecting fee system. "Zero can be a legitimate price point," says Thulsi. It is a succinct response to the to-charge or not-to-charge dilemma. Aravind's price range – from zero to market rates – is built around a culture that respects every patient's right to choose. "Choice is fundamentally important," declares Dr. Aravind, "We all exercise it when we go to a supermarket and choose what we want from an array of options. Our choices are based on subjective combinations of aspiration and affordability. We believe in empowering our patients with that kind of choice."

The organization demonstrates how a pricing model that offers free service as one option within a broader range, can actually serve more patients in need than a system that does only charity work. Aravind's consulting work with an eye hospital named, Sadguru Netra Chikitsalaya, in the town of Chitrakoot in rural Madhya Pradesh, is a case in point. Until 2002, the Chitrakoot hospital relied heavily on donor funding and focused exclusively on the very poor. The trustees running the hospital believed charging patients would corrupt their charitable focus. Most of its patients paid nothing and the hospital ran at a loss. But when Dr. BK Jain, the director of the hospital, visited Aravind, he experienced the power of a different approach to pricing.

Jain persuaded the Chitrakoot trustees to adopt a tiered pricing system, and to broaden its patient base to include wealthier patients. They sought Aravind's expertise to put together a detailed plan of action, developed the skills to do a more advanced form of cataract surgery at high volume, and began running free eye camps in the community. The ripple effect was dramatic. Five years later, Chitrakoot's cost recovery was 100%, and for the first time in its existence, the hospital was making a surplus.[39] Most significantly, the number of free and steeply subsidized patients served annually had increased by as much as 45% and the cataract surgery volumes had more than doubled.[40] The profits from paid services made it possible to provide the advanced cataract surgery technique for its free patients, as well. In addition, the hospital was able to

[39] *A Debate on Funding Eye Care Fee for Service – Yes or No?,* AECS, Powerpoint presentation, November 2008

[40] ibid.

develop specialty services beyond cataract surgery and retain five times the number of ophthalmologists, drastically reducing its earlier dependence on voluntary medical expertise. Its user-fee system, far from compromising mission, proved a tremendous tool for reliably reaching more people in need and enabling a significant upgrade in service quality.

To Aravind's leadership, financial autonomy is important not in and of itself, but precisely because it allows for this greater command over quality. With self-reliance comes the freedom to provide extremely high-quality subsidized or free care to large numbers of people, strengthen the ability to update and improve system-wide services, and improve opportunities to recruit and retain high-caliber staff.

That said, there is definitely a charming paradox embedded in the Aravind founders' perspective on money. While they understood the implications of pricing, collectively created the fee system and are supremely cost-conscious individuals, they are surprisingly unfamiliar with the organization's financial big picture. "Ask any of them, apart from Srinivasan [who manages Aravind's finances], what our annual turnover is," challenges Thulsi. "The others might venture a guess, but will probably be off by a factor of three or four." He is right "I don't really know how much money we made last year," confesses Dr. Natchiar, "But all of us know how many patients we reached, and that's what our focus really is." Her nephew, Dr. Aravind, smiles, "When you look at the founders you get the sense that they are financially illiterate, which in many ways they are – but that was a blessing. Because it meant they didn't connect their cause to money." That early de-linking is perhaps what allows money within the Aravind model to be treated with equanimity – as a tool (among many others) that aids in the restoration of sight.

An early patient of Dr. V's, a Christian monk from England who dedicated his life to rural development work, remembers coming in for a check-up at a time when Aravind was still struggling to make ends meet. When he asked for the bill, Dr. V laughed and said, "Brother, for your fee you must send me no less than 100 free patients." A lack of greed was hardwired into the organization even when resources were scarce. It spoke to a curious kind of faith. Dr. Jack Whitcher from the Proctor Foundation in California remembers discussing a research project when he first met Dr. V and, "expressing my anxiety that we wouldn't be able to do it because

we didn't have the money." Dr. V told him what he would tell dozens of puzzled colleagues, partners, students, researchers and volunteers, "You must do the work," he said firmly, "The money will follow."

From a strategy perspective, it was about starting the work and letting its perceived value organize the financial resources. From a spiritual perspective, it is explained a little differently. As the Mother put it, "The true method of being in the stream of this money-power is the feeling that it is not something you possess, but that it is a force you can handle and direct […]." She goes on to say that if a person is in touch with this force, then, with respect to money he "can make it act, make it circulate, and if ever he finds it necessary, receives from it as much power as he needs without there being externally any sign or any reason why the money should come to him." To maintain that invisible laws direct the ebb and flow of money in a system seems a stretch. But it was certainly a part of Dr. V's experience. "It comes," he says simply, "The ideas, the money, the people. Today we have enough credibility to raise a lot of money, but we don't plan to. By and large our spiritual approach has sustained us."

"I got a clear sense that Aravind had a higher purpose than what it was actually doing when I first got here," says Thulsi, "It was strongly committed to providing eye care to the community and there were no boundaries to that commitment. It was very clear that whatever it did had to be done with a high level of integrity and transparency. Most places tend to have an internal focus, whether it's money, their own growth or fame. Aravind, as far as I could see, didn't want any of that. It was operating on a plane much higher than most organizations."

Thulsi attended the inaugural ceremony of the Aravind hospital in Madurai literally a few hours before his own wedding. He is married to one of Dr. V's nieces. As a young husband and father, he walked away from a lucrative management position with a multinational, to join Dr. V's team in 1981 as its first administrator. The salary he was being offered at Aravind was less than a fourth of what he had been making. He spent his first years with the hospital doing everything, from ordering furniture for the reception, to changing light bulbs in the operating theatre. "I really grew with the organization," he says, smiling. Over the years his in-depth understanding of Aravind's mission, his clarity in assessing its needs, and his gift for translating those needs into

systemic solutions have turned him into an indispensable global leader in the field of blindness prevention.

People often wonder if mistrust creeps in when organizations serving the poor charge market rates for some patients. “That kind of confusion doesn’t happen at Aravind,” says Thulsi, “Because our prices are transparent and compare favorably with local markets.” Aravind’s pricing strategy aims to make it easy for patients to seek treatment; there are no hidden costs. “We don’t add on charges for individual tests – refraction, ocular pressure, urine sugar,” Thulsi explains. “To us it is unethical to offer those services with a price tag. These are basic tests that need to be done. They are all included in the 50 rupee (roughly $1) consultation fee that is valid for up to three visits.” This outpatient fee (that applies only to paying patients) has not been increased in over ten years. “From the very beginning, our systems have been designed so that there is no incentive for us to exploit a patient financially,” Thulsi says. “For instance we don’t accept commissions for patients that we refer outside for MRI or CAT scans.”

The management regularly reviews clinical protocols to eliminate any tests or medications that do not contribute to improving outcomes or patient comfort. Meetings are held to analyze the number of re-operations, lengths of stay at the hospital, and the reasons behind postponed surgeries. The objective is to reduce all needless inconvenience to the patients. Doctors found prescribing unnecessary medicines or tests are questioned. It is an approach that continuously builds fiscal and operational efficiency in the system, as well as patient trust.

There is an interesting flip side to the issue of perception. Most of Aravind’s paying patients have no idea that by accessing treatment here, they are indirectly contributing to someone else’s care. Aravind deliberately steers clear of advertising this pay-it-forward angle to its high-end customers. Touting charitable services can work against your reputation in a world where quality and charity are not necessarily linked, and Aravind leadership believes that when it comes to personal health-seeking motivators, value-for-money and quality of care tend to come out far ahead of generosity.

“I would very much like to come to Aravind Eye Hospital, to spend some time learning and to seek your advice,” is a sentiment Thulsi encounters in his inbox with increasing frequency. In

March 2010, the man writing is Dr. Bhartendu Swain, a plastic surgeon with two and a half decades of experience at one of India's well known corporate hospitals. His passion, however, is Aakar Asha a grassroots, non-profit initiative he founded. It performs free restorative surgery for people who are motor impaired and unable to afford the medical attention they need. Swain has studied Aravind's model from a distance and wants to learn more about it in order to inform his own work. Thulsi hits 'Reply' to welcome a visit.

The easy accessibility of Aravind's leadership would surprise most in the private sector. The door to Dr. V's office, for instance, is always left open. Anyone can walk in without an appointment. Thulsi's response to Swain, too, is swift, warm and encouraging. He intuits a genuine dedication and resonance of approach, and soon after Swain's email, a full two-day itinerary is set up, including meals and stay at the Aravind guesthouse. In Madurai, he will tour the hospital, watch live surgeries, meet Aravind's senior management, and be escorted to an eye camp. This hospitality is typical of Aravind, even, as in this case, with a stranger whose work appears tangential to its own mission.

Swain has a neatly trimmed salt and pepper mustache and a courteous air. Seated in Thulsi's office he quickly turns the discussion to questions of scale. His team is now doing 500 complex reconstructive surgeries a year, at no cost.[41] He wants to expand to do ten times that number and asks Thulsi what he thinks of that. Thulsi is candid in his answer, "Where large need exists, boutique interventions, even if they bring some kind of personal satisfaction, won't make the needed impact. You can build a much more sophisticated organization with a roadmap aimed at scale," he says. Swain has done his homework. He now shares that over 415,000 people in his home state alone, suffer from disability issues, a number that in Thulsi's view makes a case for scale.

The people Swain's organization treats are typically, apart from their motor impairment, healthy. All they require is a one-time surgical intervention. The needed intervention has low morbidity and next to zero mortality rates, and the transformation to a person, especially if he is poor, is dramatic (in all these respects the treatment parallels cataract surgery). But sustainability must be

[41] *The Forgotten Tribe – Persons with Disability*, Dr. B. Swain, Aakar Asha, Powerpoint presentation, 2010

considered, as Swain decides how to grow. He is curious about Aravind's enviable patient equation that balances the free with the paying.

"So how *did* you arrive at the 60:40 ratio for free to paid services?" he asks. Thulsi smiles, "It just happened." He adds, "That ratio isn't fixed. Right now it is actually 55:45." In Aravind's initial years, he explains, provision of free services was done on an ad hoc basis at the discretion of its doctors. If the attending surgeon knew or suspected that a patient could not afford surgery, then she waived the charge. Often the hospital had sufficient income to cover the expense, but when it did not, Aravind's founders dug into their own pockets to make up the difference. By 1980 the leadership solidified their decision to allow patients the freedom to choose whether or not to pay for the services they received, and thus the 60:40 ratio of non-paying to paying customers emerged organically.

In recent years, that ratio has shifted to 55:45. "Currently at Aravind for every 100 patients treated, the typical breakdown is that 37 will choose to pay close to market rate, 18 will opt for care at cost-price and 45 will elect to be treated for free," Thulsi tells Swain. But these numbers are prone to shift. "The annual growth rate in terms of patient volume is about 10%," he says, "But the revenue growth rate is much more, because we are finding in recent years there is a real migration from free to paying. Our eye camps influence health-care seeking behavior in the community. Now the percentage of patients opting for free treatment is coming down and the percentage electing to pay steeply subsidized rates is increasing."

While the paying-to-free ratio is not set in stone, it is closely monitored. Trust must be built and maintained across the entire patient spectrum. If either end loses faith in Aravind's services, the entire ecosystem is thrown off balance. Losing free-service patients increases unit costs, affects Aravind's reputation, and reduces training capacity. Losing paying patients augurs a different set of ills. The organization knows this from walking the delicate balance between the two.

Thulsi briefly sketches for Swain a situation in the late 1990's when the proportion of paying patients at Aravind plunged to 18 percent. Calculations projected that in as little as two years that figure would plummet to 10 percent. Senior leadership led a series of emergency hospital-wide meetings. It wasn't the percentages themselves that triggered the red flag. "The real concern was that we were off sync. We weren't reflecting the market," Thulsi says. Once the crisis was

spotted, patient surveys were conducted and the results scrutinized for insights. Aravind's leaders learned that the problem was not because something had changed — it was because *not enough had*. As India's economy had strengthened and standards of living had gone up, patients were willing to pay more for a more comfortable and modernized setting. But in the 25 years since its inception, Aravind's inpatient facility had not undergone any major renovations.

It was time to update more than the hospital's accommodations and amenities. Aravind's leadership also realized Aravind could no longer bank solely on cataract services; that market had become highly competitive. Pushed by its own mission, the leadership decided to look for areas of dormant need. Community surveys for the potentially blinding conditions of glaucoma and diabetic retinopathy revealed a high number of undiagnosed patients. Not as common as cataract, these conditions would require a certain scale to make delivery viable and to develop the necessary treatment expertise. Aravind, with its ability to provide high quality, high volume care, was well placed to provide such treatment. A deliberate focus on sub-specialties was born. "We also looked at surgical acceptance rate, patient counseling, waiting room ambience, and cafeteria food," says Thulsi, "Then we worked on improving these different things simultaneously. It took us about 2-3 years to course-correct and bring the ratio back to equilibrium."

The experience strengthened the case for paying patients in the Aravind system. While providing high quality eye care to those who can afford to pay little or nothing is an integral part of serving its mission, Aravind's paying patients are key drivers for advancing quality and medical expertise. "We look at financial viability as an indicator of our relevance," says Thulsi, "If people are willing to pay [for something], then there is a need for it. Serving people who can pay helps keep you on your toes."

"But the distribution of the disability in your field will be different," cautions Thulsi. He draws attention to the fact that while cataract affects both the rich and the poor, the well-to-do tend to be more active in accessing care. They make up a reliable portion of Aravind's patient load, which is important for a cross-subsidization model. "In your case, there may be more trauma-related disabilities in the labor class that can't afford to pay for treatment. If incidence is primarily among the poor, then you may need to follow a charity model. You will want to look into the causes of these disabilities and do some thinking on this front," he says.

"Do you have a donor strategy?" Swain queries. Thulsi breaks into one of his infectious laughs, "We're not a good group to ask that question because fund raising really isn't one of our strengths," he says, "Dr. V chose to grow slowly and with internal resources, rather than attempt rapid expansion through external funding." Thulsi summarizes for Swain how Aravind differentiates its funding policy: "Right now we're open to donations but we keep our core services free of the vagaries of funding. Paying patient revenue funds all our patient care activities, staff training and new hospital buildings." It was crucial to the founders that, "the eyesight of people not be held ransom by external resources," explains Thulsi.

Swain's initiative might require external funding, but in his mindset, Thulsi sees strong parallels to Aravind's approach. "You have clinical competence with a broader vision," he tells the visitor. "Money will not be a problem. Maybe in the initial stages there's a bit of a struggle, but not for the bigger vision."

It is 1:15 pm, and Dr. V's youngest brother, Srinivasan is on his way to lunch. As he crosses the empty in-patient area, he notices a ceiling fan running. He frowns, walks over to switch it off and then shakes a fist at the front-desk receptionists, "If I see there's a fan on in here again when no patients are around...," he raps out menacingly, before breaking into a wonderfully sweet grin. The years and grandchildren have softened him – to some extent. But his displeasure in the face of perceived carelessness, sloth or extravagance can still cause staff of all ages to quake in their boots.

The sign outside his office reads simply: 'Secretary.' (Aravind is not an organization to put much stock in impressive titles). Srinivasan *is* secretary of Aravind's governing trust, but functionally, he has also served, since inception, as Aravind's Director of Buildings and Finance. He is the organization's biggest individual implementer of cost-containment measures. With a face that looks like it was carved from dark stone, he has strong features, lips pressed together in an almost habitual expression of disapproval. He speaks in terse, rapid sentences, as if impatient both with the people and the words he employs. But when a family friend cannot afford to send a child to school, or an acquaintance in hard times is in search of a job, when the village needs a

new marriage hall, or when a budget for a project is finally tight enough to stand up to his scrutiny, Srinivasan can be counted on for support.

In India, land purchase and construction is a tortuous process, ridden with corruption. With determination and integrity, Srinivasan manages all aspects of Aravind's infrastructure and building projects single-handedly. Trained as a civil engineer, his knowledge is encyclopedic in matters of appropriate building materials, the impact of architecture on work flow, designing for flexibility and growth, and much more. He is an expert at getting durable hospitals up at the lowest cost, in record time. But that is not all. "At a macro level he brought in a tremendous amount of financial integrity," says Thulsi. "That cost-culture of everyone thinking three times before asking for money. His style is to really drill into the details of every purchase request -- an ethos that has trickled down to all levels. Sometimes with donor-driven organizations, the pressure on you is to spend. You need to eat through a certain amount [of funding] within a set time. That creates a different mindset around resource utilization."

Thulsi explains how earned rupees within the Aravind system typically stretch to serve more patients than donated dollars in other places,"In Madurai the market price for high-end cataract surgery is approximately$220, if I can keep my incurred costs at say $60 then I have $160 to use for serving two more needy patients, but if my incurred cost is $200 I basically have less freedom to do that."

How does Aravind keep its incurred costs so low? "A large part of it is because market prices are based on the average provider's cost and throughput. We operate at a much higher level of efficiency than him, which is how we make a much greater margin," says Thulsi. He breaks down the math with a simple example, "For instance, a really successful private practitioner might use his surgical microscope on 20 cases a month. Our utilization is 20 to 30 times higher. That kind of downtime means his average cost per case is much higher than ours."

Aravind abhors downtime.

While the initial investment cost in terms of equipment and infrastructure is similar to other hospitals, the utilization rate at Aravind is drastically higher -- around 80%, which far surpasses the global estimate of 25% for the resource utilization within eye care services. [42]

One of Dr. Natchiar's favorite examples of resource utilization is how bed linen no longer in use gets converted into tablecloths and then later still, into washcloths -- three uses for one resource. "When we started we never had any extra resources," she says, "We even used to make our own brooms and cut up packing material for sponges. Now we don't have the same challenges but the values are still the same and come from these sorts of experiences."

According to the World Health Organization, at any point in time, roughly 50% of medical equipment in developing countries is unusable or in disrepair.[43] Sourcing spare parts for imported medical machines and instruments can be a lengthy and expensive process, as can repairs. Aravind learned this the hard way in its early days, before tailoring its own solution. The organization hired a retired physics professor with a passion for making things work, and began an in-house maintenance division. That division is now a 35-person team that works across Aravind's five hospitals.

If a company cannot sell them a spare part, Aravind's maintenance division will find a local machinist who can make it for them. The division's trained team cleans and sterilizes retinal forceps, rendering a $1000 use-and-discard instrument good over several cases without compromising safety. They tackle surgical debris on $36,000 phaco machines, change light bulbs in slit lamps, identify local substitutes for spare parts and costly consumables (like imported eye cleaning solutions), and have even custom-built equipment for special clinical needs. Their constant behind-the-scenes efforts help Aravind process high patient loads with ease. This expertise is something Aravind shares beyond its borders, through six-week training courses on instruments maintenance for eye care, which are typically waitlisted a year in advance. Five weeks of the program are on-site at Aravind. In the sixth week, students travel to an outside

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[42] R.D. Ravindran, R.D. Thulasiraj, "Aravind Eye Care System: Developing sustainable eye care", Cataract & Refractive Surgery Today, March 2006

[43] The role of medical devices and equipment in contemporary health care systems and services. Regional Committee for the Eastern Mediterranean, World Health Organization, 2006; and Health Technologies: The backbone of health services. World Health Organization, 2003

hospital and repair its instruments (and those brought in from surrounding facilities) at no charge.

The 65th graduation ceremony of the instruments maintenance class is underway at Aravind-Madurai. It is early 2010, and to date the department has trained 414 technicians from 36 countries, including Papa New Guinea, Eritrea, Nigeria and Cambodia. Very few technicians in developing countries receive training specific to optical instruments and machinery. Ziyanda Zigayi is a young, slender South African with high cheekbones and a luminous smile. As she steps forward to receive her certificate she says, “I used to have to pretend I knew what to do when people in my eye department asked for help. Now after this training I actually *do* know.” When Aravind's team goes to Johannesburg later in the year to educate technicians in the country, Zigayi will be one of their trainers.

Outside Aravind-Madurai an orange bus rumbles down the street, cheerfully lopsided with four young men hanging on for dear life in the open doorway. Behind it comes a man on a bicycle, egg crates stacked higher than his head wobbling precariously. There is a widespread talent in India for carrying more than what is considered sensible, with unruffled ease. You see it at Aravind too. Throngs of patients that would seem overwhelming anywhere else, are considered par for course.

While the large volume of patients at Aravind forms the engine of the model, the system needs a flow of patients in order to be optimally efficient. “Managing demand fluctuation is critical to maintaining quality and controlling costs,” says Thulsi. Patient volumes are regularly scrutinized and the management works to smooth out demand patterns to protect against dramatic peaks that stress the system. Aravind’s hospitals have a walk-in, no appointment system. So there is dynamic patient volume, a vulnerability that is further compounded by the patients brought in through the eye camp.

In the mid 1980’s, patient loads on Mondays would peak, creating problems. Because of the many weekend eye camps, a large volume of patients would be waiting for surgery on the first day of the week. By Wednesday, patient numbers would drop back to a more normal level. Aravind’s approach to this feast or famine situation was interesting. Instead of doing the obvious

and redistributing camps across the week to comfortably flatten the spike, it looked for ways to increase patient volumes throughout the week, so that the surge on Mondays would be the norm, rather than the aberration.

To do this Aravind's leadership analyzed the bottleneck to its patient admissions. Looking at the data, they realized that a number of patients were dropping out of the system after being told by a doctor that they needed surgery. The need for an additional step in the process was identified and a cadre of patient counselors was introduced. The counselors talk to those who need surgery and explain the various options available to them. Within two years of their introduction, Aravind's direct admissions per week increased four-fold. In that same period its eye camp volume increased by 20%. By then, the systems in place were robust enough to handle the increase without a murmur. Now there are 164 patient counselors across Aravind's hospital network.

Such an approach to scaling did not cater to complacent mindsets. Dr. Usha Kim, one of the organization's senior doctors, recalls walking into Dr. V's office with two other colleagues in 1999 after first hearing of his plans to build a fifth hospital on Pondicherry. "We said to him, "Look, this is a bad idea. We don't even have enough doctors in Madurai right now. We have 4 hospitals already, we're not interested in starting another one," recalls Usha. Dr. V listened to them quietly and nodded his head, "If you feel that way, we won't do it," he said. "But then after that, he called us individually and talked to us," says Usha laughing, "He called me the next day and said, 'You know, when you think you've grown enough, that's when you start to decline. It means you're walking downhill instead of climbing.'" Aravind-Pondicherry was inaugurated in 2003, and Dr. V's perspective on growth would slowly filter through the organization's leadership. "I've matured to the idea that when you're in a comfort zone, you start to deteriorate," says Usha. "You need to have some kind of pressure or you don't evolve. Dr. V was right, it isn't about staying where you are and feeling cozy."

CHAPTER 7: YOU DON'T FIND PEOPLE, YOU BUILD THEM

Dr. Bhartendu Swain has been at Aravind half a day and is still reeling from the wealth of information he has received, but his stream of questions remains unabated. The plastic surgeon is now with the Administrator of Aravind-Madurai – Dr. Aravind. Revisiting the issue of scale, Swain describes chasing the Indian government for two years in hopes of obtaining free land to expand his charity work; efforts that were in vain. "What is an appropriate size for me to aim for now?" Swain asks.

"We started with eleven beds," smiles Dr. Aravind, "I'd say, do a pilot, and if that works, then build off of it. For us scale has always come later. Building in phases is more practical. Your time and energy needs to be invested in inspiring people, patients, and staff. Start with a microcosm of what you're dreaming of. Seeing it in motion will give you the energy you and your team need. Commitment on the ground goes a long way – even if it's a modest effort."

Aravind [the organization's] approach to expansion was without haste – or complacency. "As we made more money, we built more floors," Dr. V explains. The Madurai hospital, now a five story building, was built floor by floor, over a period of five years. The founding team favored a slow and steady pace over rapid expansion, mitigating not just financial risk but also quality variation and the dilution of values. Construction of its additional hospitals was all funded by revenues and staggered across more than twenty years. "I'll take this phasing input seriously," says Swain. "It's been a real issue, the question of size, but this sounds like the right approach."

He mentions then that a renowned business school and a financial company have stepped forward to assist him with strategy development. Dr. Aravind offers a good-natured caveat. "External resources are great, but they can complicate things. Push the kid in the swimming pool, and he'll swim. He doesn't need ten people telling him all the ways he can drown – that way he'll never get in the water." Dr. Aravind then goes one step further with a recommendation. "I'd suggest something like this – commit a certain percent of your time, one day of the week, or whatever you can manage, and then just *start*."

The conversation surges forward into more questions around hiring, reporting structures, and how to attract and retain talent. They cover a lot of ground. Before he takes his leave, Swain says tentatively, "I'll keep communicating with you, if you don't mind?" "Please. We'll be in touch,"

replies Dr. Aravind, before echoing Thulsi's sentiments from earlier in the day: "You have the clinical skills, and you have a vision for the bigger picture. You are off to a great start."

And then, almost as an afterthought he adds, "You know, Dr. V built this place at the right time. He wasn't competing for anything at that stage in his career. He was building competence in others. You have to be out of the rat race completely to build an institution like this."

Selflessness was one of Dr. V's strengths. Asking nothing for himself gave him the freedom to ask a lot of others. The personal sacrifices that this called for tempered the founding team and allowed for a high degree of mission alignment. They would be tested in different ways. "In 1978 the head of a big company came to us and said he would like to donate a large sum of money to Aravind in memory of his wife," says Natchiar, "All we had to do is name the new block being built after her. We were very tempted because money was short then. But we said 'No'. We didn't want to give up our values. We figured if we started doing things just for someone else's money, then we wouldn't have the same kind of energy. The purpose behind our work would start to get lost."

Natchiar sees patients in a cubicle adjoining her office. It is not the kind of workspace you would imagine for the joint director of the world's largest eye hospital. She has served Aravind in this capacity for a period of 15 years, all from this 8'x12' room. In 1965, she was the fourth woman in India to become an ophthalmologist. Chief of Aravind's neuro-ophthalmology division, she has worn multiple hats through the decades, including that of commander-in-chief of Aravind's vast outreach activities and its paramedical program. She has always been, and continues to be, the unofficial keeper of its culture. As volunteer Dr. Fred Munson, jokes, "Dr. Natchiar believes in the Aravind culture more deeply than anyone in the whole organization. And she would like to, I think, sometimes go around with a club and beat the culture into it because, that is her favorite way of operation." (Munson's friendship and respect for Natchiar runs deep. He adds with a twinkle that she has now found "more effective" modes of working).

Like Dr. V and all his siblings Natchiar is deeply good -- but not always nice. As one of Aravind's senior nurses put it, "People get scared when they see her because she looks at all the

details. You suddenly notice the little things that are wrong as soon as she comes in the room. She shouts a lot but she also teaches us a lot about how to work, and how to do the best for our patients." She is equal parts tyrannical, irreplaceable, and beloved, a woman with a phenomenal organizational consciousness and a deeply personal style.

Her morning is spent examining patients and doing hospital rounds. In the span of a single hour this afternoon, Natchiar has reviewed a list of nursing staff and their transfer locations, counseled a nurse departing on maternity leave, met with the head of housekeeping, responded to a speaking engagement request, and looked over the schedules of doctor-volunteers visiting from other countries. She delves into particulars with the thoroughness of a clinical investigation, focusing always on the practical. Take the housekeeping meeting, for instance. "How are other organizations doing recycling?" she wants to know. She wastes little time on debate and is quick to action: "All recyclables can be sold. We must stop thin plastics," she declares. Natchiar grabs a pad and sketches the kind of trolley she wants to be used for transporting the food waste from the hospital. It will be composted for farmland. The discussion moves on. A hospital, Natchiar maintains, has to "look nice like a hotel," but has to pay a lot more attention to disinfection. This morning, she had noticed the way Aravind's floors were being mopped and was unhappy with the process. Her dissatisfaction immediately translated into recommendations for color-coded buckets, standardization of equipment, and additional training of janitorial staff. To all these areas, "Madam" (as she is known to her staff) brings more than a streak of deep maternal interference and caring. On this particular day, she has food delivered to a young doctor with a newborn baby, arranges for the hospitalization of a nurse's ill mother and gifts a voluminous apron that she purchased on a trip to England, to the hospital's gardener.

In between patients and meetings, Natchiar composes an email to Aravind's senior leadership, regarding the passing away of a volunteer whom she had taken under her wing. Mangammal was a widow who volunteered with Aravind for 28 years and considered it her home. She worked at the patient inquiry counter and lived on the premises in the nurse's dorms, a surrogate grandmother to the young women there. When she died she took the organization by surprise by leaving it over a million rupees in her will. No one had been aware of her assets. "I have handed over the money to Mr. Srinivasan and we think it can be used for the "Food for Sight" program,

for feeding our free patients" writes Natchiar, "We are very grateful to Mangammal for serving us physically when she was with us, and helping the poor after her death."

Today Natchiar is wearing one of her vibrant hand-woven saris. It is olive green with a thin red border shot with *zari* (gold thread). Her hair is slipping down out of an unfussy bun. She has the same strong features as her siblings, a radiant smile, and a healthy suspicion of sophistication that she often phrases in unforgettable ways. "These people from the West, they talk a lot about 'value-addition'. I don't know what that means," she says. "When a nurse holds an elderly patient's hand and leads her where she needs to go -- to me that is value-addition. But that's not what these people seem to be talking about."

"In hospitals like X there is unnatural atmosphere", wrote Dr. V in 1978 after a visit to a reputed medical institute in Delhi. "It has not got Indian traditional hospitality and culture. How to bring that hospitality and culture in our hospitals and camps. The ordinary man must feel at home." Dr. V recalls women in tattered saris who often had no change of clothes and so, with a mixture of guilt and shame, they refused to travel to town hospitals for much needed treatment. In a society that is hierarchical in almost every aspect, it is not easy for a poor, unschooled farm laborer to approach a hospital without feeling intimidated. At Aravind, the nurses – themselves from villages – are beacons of comfort, guiding patients through the maze of medical care. Their specialized skills, honed by repetition, not only enhance quality and allow for high patient throughput, but also nurture a sense of individualized care.

In India you never address an older or elderly person solely by their first name. People are commonly addressed by a relational term. "Paati (grandmother), come this way," "Thatha (grandfather), look over here." You hear these phrases again and again in the corridors of Aravind and in the eye camps, as young nurses guide the elderly through the process. There is a quaintness to this easy assumption of relationship between the staff and patients at Aravind. It lends a note of grace to interactions that in many hospitals can be brusque. At Aravind patients are never more than a few steps away from a competent professional in sari-uniform, who speaks their language and treats them with compassion. There is far more to the role of these women

than mere assembly-line efficiency or a financial bottom-line. They are the scaffolding that holds the model in place, and the most pervasive conveyors of its culture. Each one of them is carefully selected for this role.

A seasoned interview panel sits at a long wooden table in a basement classroom of Aravind-Madurai. Alongside Natchiar are Alice Verghese, Head Nurse of Surgery, and Nursing Superintendent, Radhabhai. The two nurses are imposing in crisp white saris. Radhabhai is in her early fifties, with salt and pepper hair pulled into a bun. She oversees the work of more than 500 young women, and her air of calm authority makes it hard to believe that she first came to Aravind as a timid teenager. "I was 19 when I joined here in 1979. I grew up in a village and didn't know about town life or hospitals," she says. "But here, I was treated like family."

The founding team's respect for and connection to villagers has had a profound impact on their approach to recruitment. In the early days the founding team encouraged young women from poor families in their own village to apply. As the hospital grew, so did the invisible network. Since inception Aravind has recruited over 12,000 women for various paraprofessional roles, including nursing.

All along the corridor and in multiple classrooms, chairs have been arranged for the candidates. Gazing across the sea of young, expectant faces one fact leaps out – none of these women have come alone. An unusual practice at Aravind is its insistence that prospective candidates attend the interview accompanied by parents or grandparents. Even more unusual is the content of these interviews. "We ask questions not relating to medicine, [but] relating to the farm," says Natchiar. "We ask them about rainfall, about manure, and the value of their crops. We look at the family background, the common sense in the girl, her attitude." She chuckles talking about the naiveté of parents who interrupt these interviews, to make innocent corrections to their children's exaggerations. The honesty of this sort of interaction appeals to Aravind.

In this system, a demonstrated willingness to work hard (be it milking cows, taking care of siblings, or helping in the fields), counts more than high grades. Even though some of their questions may seem startlingly irrelevant to the job description, the combination of experience, intuition and the very strong, practical grounding of the interviewing panel has meant that they

very rarely miss the mark. One thing that becomes increasingly clear is that the panel is focused on not one, but two, questions.

The first and more obvious one: What does she have to offer us?

The second and equally important one: What do we have to offer her?

There is a deep recognition within Aravind's senior management of the impact of hiring on the female candidate and her family. If not for employment at Aravind, many of these women would have been grazing cattle, working in match factories or married within the year. Being hired at Aravind transforms not just their lives, but that of their sibilings and extended family as well.

The organization as a whole employs over 1700 women and less than 500 men. It prefers women, because, as Natchiar says with her usual directness, "They are better with patients and less prone to distraction." When hiring its paraprofessionals ,the focus at Aravind is on value-fit over skill-fit. It looks not for accomplishment, but for people suited to its pattern of working. "Our task is to make an ordinary person, extraordinary," says Natchiar briskly. "We make them activists at 18."

The organization assumes guardianship in a manner that would seem intrusive in other parts of the world, but is in keeping with the local culture, and has mutually beneficial results. "They've taught me about savings," says Parveen Banu, an attractive twenty-two year old refractionist at Aravind-Pondicherry, who talks with candor about her five years here. "We were compulsorily made to open a savings account. At the end of the first year I helped buy back our home. In the second year we bought some jewelry for me. In the third year we fixed my sister's marriage," she says with a glow. In a country where debt to the local moneylender often traps generations, these are significant milestones that Aravind has helped thousands of women cross. Many of its senior nurses are the chief breadwinners at home.

Over a two-year period of training, a metamorphosis takes place. The intensive residential training program combines lessons in the classroom with on-the-job training and specialization. At the end, these young women will no longer be the fluttering, insecure new recruits, but self-assured members of the extended Aravind family. Many of them possess enormous strength of character. Several are, in effect, single mothers whose husbands have deserted them or are

unemployed alcoholics. Working at Aravind provides them with a measure of dignity, stability and control over their lives. It also brings to the surface their considerable potential for leadership.

Senior nurses are the chief decision makers for 80% of all the activity that takes place in the operating rooms and the patient wards. This includes daily manpower, equipment and sterilization planning, as well as caseload distribution. Their sharp-eyed judgment and familiarity with Aravind protocol is heavily relied on, and plays an integral role in the training of post-graduate ophthalmology students. Head nursing staff assign patients to individual residents based on case complexity and the student's skill-level. Student doctors often find themselves following the nurses' cues in the examination and operating rooms, and the doctors are answerable to them for patient follow- up. These women are fierce guardians of patient wellbeing, as well as encouraging mentors.

"We watch the younger doctors in each step of the operation," says Sister Sundari. She joined Aravind in 1992 when she was seventeen and fell in love with the complexities and stringent demands of working in surgery. She is now one of the most respected operating theater nurses in the system. "If they are struggling with a particular technique, we point them to training videos and have them practice particular steps in the wet lab to increase speed and perfection of suture techniques," she says.

Assistant Nursing Superintendent, Sister Jeeva, has been with Aravind since 1986. She encapsulates what she has learned from the system in two words of Tamil: "*Surrusurrupu, Sikkanam*". Which roughly translates to "Briskness and Thrift". "I learned these things here, and I don't know why but I can't imagine working anywhere else." Jeeva is clear about how the transfer of values happens. "When someone so much older, like Madam [Dr Natchiar], works so hard and does so much, then we know we can do it too" she says. "We want to bring the trainees who come after us to do the same kind of work with the same spirit – they have to enjoy the work like we did. If there's even a little bit of bitterness or resentment about handling the load, you can't stay here as long as I have."

Most nurses actually do cycle out of the system relatively early, but for a different reason. When a new cohort of trainees enter the Aravind system, they are usually fresh out of high school and

have four or five years, before, as is the custom in India, their families arrange their marriages and they relocate to where their husbands live. Rather than posing a threat to Aravind, this relatively high turnover works to its advantage. It ensures a natural agility within the system, and keeps the average age of the workforce young. For those who do stay on, the organization strives to create career tracks. Depending on their ability, these women will become tutors, supervisors or managers in various departments across Aravind's five hospitals. They are provided with opportunities for computer training, spoken English and communications classes. Some will even become trainers who help transfer best practices from Aravind's nursing program to hospitals across the globe, in places like Bolivia, Congo and Bangladesh.

Aravind's experienced nurses are highly regarded and sought after in the field. A dearth of well-trained medical assistants across the country heightens this demand. For example, there are only 3000 optometrists in the whole of India and very few optometry training institutes. Ever so often, Aravind will lose a few of its nurses to private practitioners promising more lucrative salaries. The leadership knows that the efficiency and sustainability of the organization depends heavily on these women; behind every one of Aravind's phenomenally productive surgeons stands a team of nurses. "All I do is diagnose, then at surgery open the eye, perform the surgery, close the eye and follow up the next day," says Dr. Usha, who now oversees the entire nursing program at Aravind. "These women take care of all the other steps, before, during and after. They are the real heroes in our system."

"Anyone can have a vision," says Natchiar, "But to keep that vision in action, you need people." Dr. V had his brothers and sisters to put his dream in motion, but it would take far more people-power to sustain it. Dr. Krishnadas, one of Aravind's leading glaucoma surgeons remembers complaining to Dr. V in the early years about a lack of personnel. Dr. V had chuckled and replied, "Doctor, you don't just find people, *you have to build them*." Rather than depend on externally trained staff, it took an innovative and self-reliant approach to recruitment and training, not just of nurses, but of doctors too.

Upward of 90% of Aravind's ophthalmologists are products of its own training. The management has a strong preference for employing doctors groomed within its walls because

they absorb not just the technical aspects of its system, but also the cultural ethos of the organization. “They have less to unlearn,” explains Dr. Natchiar smiling,“And it doesn’t happen in a day. The building, the money, even the technology, can happen quickly. But the values – they have to be *cooked.*” There is a tempering to this process that the founders see as crucial to the organization’s sustainability.

Dr. V himself spends a great deal of his time mentoring Aravind’s doctors. He has a way of grooming people into significant leadership positions *despite* themselves. The ability to envision the full capability of a person and spur them to living it is one of his strengths. “Just as if you are training somebody for the Olympics, you train everybody every day,” he says speaking with sweet, almost comical, simplicity of the hands-on way he mentors staff at Aravind. “You coach him, guide him, and play with him. So you can develop him quickly as a top player.”

“The great thing about Dr. V is that, as a teacher, he transfers everything,” says Dr. MS, the renowned corneal surgeon and one of Aravind’s founding team members. “He guides you in diagnosis and surgery, he encourages you to attend conferences, present papers and visit other hospitals, other models; he speaks highly of you in the field. In order to stay on top, many other leaders won’t do this. We try and do the same thing Dr. V did with us, with our students. This is why we get such good doctors from all over the world. Because we want to transfer *all* that we know.”

MS’s wife, Dr. Viji, dissolves into laughter remembering how Dr. V’s small caring gestures went hand in hand with putting them all through the grind. In the early years, every morning on Dr. V’s orders, a flask of hot coffee would arrive at their doorstep at 5:00am sharp. “We had no fridge to store milk in, at the time,” says Dr. Viji, “The flask would come for two reasons: one, to make sure we had a cup of coffee in the morning. And two, to wake us up and make sure we were on time for surgery!” By 5:30 am, husband and wife would be in the operating theater alongside Dr. V.

The relentless coaxing towards excellence is multi-faceted, and Dr. V is clear that the demands of the job go beyond medicine, “Doctors here must develop physical stamina, mental capacity and *a vision*,” he says firmly. But a vision that soars doesn’t come naturally to everyone. Dr. Ramakrishnan, or RK as he is known, is a prime example of someone who was mentored far

beyond his own aspirations. A well-liked surgeon with a soft-spoken manner, RK specialized in glaucoma, the third highest cause of blindness in the world. With assistance from Dr. Alan Robin, a Professor of Ophthalmology from Johns Hopkins University, he founded Aravind's glaucoma department.

In 1996 when Aravind leadership transferred the Director of Aravind-Tirunelveli to the new hospital in Coimbatore, Dr. V identified RK as the man to fill his vacant slot. RK's retiring nature, coupled with a surgeon's typical aversion to management, made him shrink from the considerable promotion. "I told him I would be a bad fit because I'm not good at scolding people," he says. But his spluttered protests were in vain.

This is a classic example of where Dr. V's word was heeded as law, overriding personal preferences. What is interesting is how Dr. V himself processed their discussion, "I had a talk with Dr. Ramakrishnan yesterday," he wrote in his journal. "He is keen to stay here and develop himself as a Glaucoma expert. He feels he is not good in management. There was a certain amount of bitterness and misunderstanding in our discussion. How to develop people. How to bring spiritual development – integral development, to a large number of our people." As a leader, Dr. V is not entirely impervious to the perspectives of other people. He listens, but more often than not, comes to the conclusion that they are arguing for their own limitations. Because he is deeply interested in not just the professional, but the spiritual, emotional, and intellectual evolution of his staff, his lookout point is erected on high ground. The fact that everyone understands this plays into the curious culture of acquiescence to Dr. V's orders at Aravind.

So, in 1996, RK, who had just built a beautiful new house in Madurai, moved with his wife and two young sons, to Tirunelveli. The job waiting for him was not easy. But RK, true to Dr. V's intuition, rose to the occasion. The reluctant administrator surmounted his own lack of confidence and went on to build extensive community ties for outreach, increase focus on the hospital's specialty services and ramp up its medical training.

Mentorship is often a baton -- those who receive it, tend to pass it on. RK shaped others in the same determined and intuitive way he himself had been shaped. "When I first joined I was very insecure about my surgery," reminisces Dr. Meenakshi. "I used to watch RK's surgeries and one day I said, 'I don't think I will ever get the confidence to do surgeries like you.'" "You don't

know how many years I took to get here," RK had told her firmly. "You're just at the beginning of your learning curve. Believe you are good and you will be good. You can do it." He steadily mentored her and many others through the years. Meenakshi, the once unsure surgeon, now heads the pediatrics division at Aravind-Tirunelveli, and RK, the leader who still cannot bring himself to harshly reprimand anybody, is her role model.

Leadership is not always quite so benign within the organization.

CHAPTER 8: THE QUESTION OF THE GREEDY DOCTOR

"You'll be drilled, fried, boiled here," Dr. Prajna's clear voice rings through the conference room where the institute's 2009 class of post-graduate students in ophthalmology are gathered, "But we're interested in you. We care about you and about making you shapers of research, education, systems and processes."

In Aravind's first decade as a government-recognized post-graduate institute (beginning in 1985), the organization's overwhelming focus was on eye care service delivery and outreach camps..Teaching was done in an ad-hoc manner, squeezed in between the urgency of service delivery. Since the turn of the millenium, however, Aravind has increasingly prioritized its teaching facilities, course structure and methodologies to attract the country's best students. Today, it is one of India's most esteemed training institutes for ophthalmology, prized for its high caliber instructors, its advanced specialty departments and the hands-on surgical experience and case exposure provided by its large volume of patients. Aravind currently takes in 35 residents and 50 fellows, and provides more than 350 ophthalmologists with short-term courses, on an annual basis. By 2010 as many as 10% of all Indian, Nigerian and Nepali ophthalmologists, and 100% of all Bhutanese ophthalmologists, had undergone some form of training at Aravind.[44]

In India, very few people outside the field of ophthalmology are aware of the breadth of Aravind's contributions, or its near-celebrity status in the international public health domain and the global business school community. Prajna is out to set the record straight – at least for this group of new students. He zeroes in on Aravind's recent front-page accomplishments: the Gates Foundation Global Health Award in 2008, and its listing in 2009 in Fast Company Magazine as one of the world's 50 most innovative companies. "Aravind has won global awards that no other organization in India has even been nominated for," he raps out sharply, referring to the Conrad Hilton Humanitarian Award that Aravind received in 2010.

The students regard Prajna with a mixture of uncertainty and awe. He is Chief of medical education for the Aravind system, Head of the cornea department at Aravind-Madurai, and a

[44] LAICO, Aravind Eye Care System

Fellow of the Royal College of Surgeons (he is also the eldest son of founding members Dr. Natchair and Dr. Nam). His slick and snazzy style is a departure from the self-effacement of the earlier generation. “Other institutions like to boast that they are a centre for the exams of the International Council of Ophthalmology (ICO),” says Prajna, and then with a touch of self-congratulation, “I help *set* the questions for the ICO exams. Such is Aravind’s presence in the sphere of international ophthalmology.” Humility is not his strongest suit, a fact Prajna admits to with a grin. But his lordly manner is backed by considerable professional competence.

“When doctors from the United States see what surgeons from Aravind do, they are blown away,” says Dr. Christine Melton, a Manhattan-based ophthalmologist. “I had Prajna give a presentation at The New York Eye and Ear Infirmary on corneal ulcers one year. After his talk, the faculty advisor told his residents, ‘The amazing stuff you just saw – don’t try it here. We don’t have that kind of expertise’.”

Melton came to Aravind in the early 1980’s and witnessed the beginnings of the model taking shape. She performed cataract operations illuminated by flashlight, and caught a spark from Dr.V’s vision. Upon her return to the States she helped formalize and oversee a process that sent two to three residents from New York to Aravind for training each year, over a period of thirty years, numbering well over 100 surgeons in all. “They each stayed three weeks to a month, during which time they would typically do 30-40 operations – the requirement for their *entire* residency is between 70 and 80 cases,” says Melton, “So in terms of their confidence and adeptness, this really got them over the hump. Not to mention the opportunity of seeing so many textbook specialty interest cases!”

Aravind hosts a number of foreign residents from some of the best medical schools in the world each year, and offers them training opportunities at no charge. In return, its own doctors and students gain informal exposure to Western systems, techniques and policies. “Aravind’s success goes beyond training others. It has a really open mind to learning whatever is out there from other people,” says Melton. Over the years she has arranged for many of Aravind’s surgeons to undergo training and observation visits at some of the finest eye care facilities in the United States. Her passionate commitment to Dr. V’s vision eventually led her to head the US-based non-profit, Aravind Eye Foundation, that serves as a link to resources, training and partnerships in the West. “For many of the residents from the US, the Aravind adventure is a life-changing

experience," says Melton thoughtfully, "It's extremely humbling because it comes at a time in their careers when they are used to a routine, insular world, and the illusion of having everything under control. Then you see this much greater challenge being addressed with such excellence. It's very empowering, in terms of redefining what you think you can contribute."

Pulin Shah was raised in Louisiana, a classic southern upbringing that included catching rattlesnakes in the sugarcane fields that surrounded his school and sailing the family boat off the Gulf of Mexico. Somewhere in between all this he applied to medical school. As a final year ophthalmology resident at San Francisco's California Pacific Medical Center, a meeting with Dr. V inspired him to sign up for training at Aravind. He describes the experience, "A lot of the patients who come there are truly blind from cataracts. They have advanced cataracts in both eyes; so you look at them and you'll see just two big white pupils – cataracts like *idlis*," says Shah. Idlis are 4-inch, steamed rice dumplings, a popular South Indian dish. "You know, these people haven't seen anything for a very long time; for maybe years," continues Shah, "First day after operating I'm looking very carefully through the slit lamp at my patient's right eye. Everything looks great; then I take a quick look at his other eye. He still had an eye patch on since I'd done the operation just 6-8 hours ago. So I took the patch off when I was examining him and he started to look around and I didn't think much of it. And then I realized – this is the first time this man is seeing in, probably, years!"

Poetry and practicality blend in that moment, when a surgeon lifts a patch to stare into an eye newly sighted by his hand. Shah muses over his own experience, "The patients in India, they don't react a lot. I mean, it's a cultural thing. I think in the States people would be like – 'Oh my God – look, I can see!' Here they're very quiet, they're very solemn. I think they're ecstatic inside, but it's not all over their faces. But if you look beneath the surface, you can this happiness that they have. They start to light up. I got the satisfaction of seeing *that*. And it's a daily occurrence at Aravind."

Prajna is still pacing in front of his captive audience of post-graduates. "So what's in all this for you?" he asks before answering his own question, "You can do much more while you are here

than just passing an exam." He announces this in the manner of a calm oracle before launching into a string of impressive achievements by previous students at Aravind: publications in prestigious journals, presentations at high-profile conferences and deployment to foreign countries, like Nigeria, to assist with replication efforts. The postgraduates of yesterday now run some of Aravind's hospitals, and as Prajna points out, it did not take decades for them to reach those heights. He is pitching Aravind to these young professionals with a clear understanding of their aspirations. Prajna and others in his generation at Aravind, recognize that for young ophthalmologists, there needs to be more than the drive of Aravind's mission to draw them in and retain their talent.

According to Prajna, most private teaching hospitals charge close to 10 million rupees (~$220,000) for residency positions in ophthalmology. Aravind refuses to sell its allotment of seats, accepts students based on merit, and charges nothing. "But we do stipulate that students must work here for three years after completion of training," says Prajna, "During those years, they are paid market rate salaries." Those who wish to leave earlier pay a release fee. Typically, 60% of Aravind's post-graduates will leave for jobs outside as soon as their residency is complete.

In general, retention of its doctors is one of the bigger challenges that Aravind faces. Prajna is pragmatic about the current situation, "The peril of India's growing economy is the abundance of opportunity your employees have elsewhere. Our salaries are competitive but can't beat private practice or corporate salaries." The fact that none of Aravind's five hospitals are in metropolitan cities is an added disadvantage for doctors seeking higher incomes and an urban lifestyle for themselves and their families. The tongue-in-cheek question of the greedy doctor comes up often when people are first introduced to the Aravind model. There is a natural curiosity to know what it is that keeps talented professionals who "want more" at an organization whose driving ethos is, "do more".

A surgical residency at Aravind lasts two or three years depending on the choice of program. "Typically, for the first three years, doctors come to get qualified and improve their skills. After the third year they start to look around," says Dr. Aravind. Aravind's specialty departments each screen tens of thousands of patients, providing doctors first-hand experience not just with routine cases, but a wide range of rare conditions as well. They offer opportunities to build skill and

expertise that would be hard to come by in smaller institutes. As private practitioners in metropolises, the doctors might earn more, but Aravind's international visibility, along with its teaching, research and professional developmental opportunities, are not easily dismissed.

Dr. Shukla is a strapping retina specialist at Aravind-Madurai with a trim goatee, a rigorous workout routine and a passion for ophthalmic research. In a largely mild-mannered organization, he stands out for his short fuse, outspokenness and general disdain, of all things, of cataract surgery. The relative simplicity of cataract operations, their more or less assured outcomes and the minimal variation between cases, to him, amounts to a professional rut. "It all gets a bit pedestrian after awhile," he says. "The only thing cataract surgeons can talk about after a morning of operating is the number of operations they did." To Shukla, the high stakes complexities in the field of retina are infinitely more compelling. "I remember as a student, watching Dr. Nam operating in the retinal surgery room. It's generally darker than other operating theaters, so the vitrectomy instruments with the lasers light things up and, you know, it looked really nice and jazzy," says Shukla beaming.

The surface glamor may have reeled him into the field, but the challenges and intellectual rigor would keep him there as an avid researcher. Shukla is unsentimental about why it makes sense for him to stay with Aravind. "Volume is key for research. In the retina department here, we see 350 patients every single day," he says. "I've compared that with other top institutes in the country. They see only half or one third of our numbers. Also, I've worked out an arrangement with the management that allows me to spend a large percentage of my time doing research. In private practice, this just wouldn't be possible. I used to think after I'd published 30 papers, I'd leave to make more money in private practice," admits Dr. Shukla with a chuckle. "Now I think maybe I'll have a hundred publications, and still be here."

"Clinical research is Aravind's greatest strength," says Dr. Carl Kupfer decisively. "It took them less than a year to recruit the 3,400 patients who participated in an Intraocular lens study we did. In the United States it would take five years to get that number." For thirty years, Kupfer stood at the helm of what is today, the largest and most comprehensive center for vision research in the world – the National Eye Institute (NEI) in Bethesda, Maryland. "India was a main focus in my

research; in ten years I made 40 visits to the country. They always took such good care of me at Aravind," says Kupfer warmly. He had first visited Aravind in 1979 on a WHO assignment and was struck by what he found there, "I couldn't fathom the will that Dr. V had. He was very debilitated and yet continued to do surgery, and did it remarkably well. The second thing was that he didn't call upon organizations to help. He waited for them to ask to be involved," says Kupfer.

This 'don't ask' approach was novel to him. As was another trait, "Dr. V really picked and chose from what we offered," Kupfer says. The discernment with which Dr. V often refused money, even when Aravind was a small, struggling hospital, intrigued him. It led to a strong collaboration based on complementary strengths and mutual respect. "Meeting Dr. V had a profound influence on my life," says Kupfer simply, "My feeling was that the NEI had an awful lot of knowledge that could be applied to the problems Aravind was facing, and that we could provide some credibility to their work. And we had a lot to learn from Aravind. Serving the underserved is a universal problem. If I hadn't agreed to work with Dr. V and Aravind, I don't think I would have slept very well."

Not all Aravind doctors feel the same fervor as Kupfer. "Some doctors are unhappy at Aravind because they don't really know what they want or where else they would go," says Shukla briskly, "They stick around, but basically they want to escape work." he shakes his head, "You can't survive at Aravind with that attitude. Dr. Natchiar tells every recruit up front, 'Being at Aravind is about *hard, hard, hard, hard, hard work*." Not everyone has a predilection for that kind of environment. There is no doubt that along with their towering dedication and compassion, Dr. V's generation brought a driving severity to the work culture at Aravind.

This dictatorial vein in the founding generation's mode of leadership would intimidate many and offend some. Their imperious rages and exacting demands are legendary among old-time employees. Most of them interpret this harshness to stem from the founding team's extraordinary commitment to the wellbeing of patients. Shukla's own take on it is interesting. "You have to be fearless in order to appreciate these seniors," he says of the founders, "If you're scared in front of them, then you're resentful behind their backs." He appreciates their work ethic, but also

believes their authoritarian style can stymie genuine inquiry, “Strictness shouldn’t mean that juniors don’t ask questions. If you look at the postgraduates here, they don’t really push their instructors. They are too scared of being disrespectful. When I’m taking (teaching) a class, I have to tell them not to just sit there like cattle.”

Shukla has an engaged but unsentimental perspective on Aravind’s work, and a tough self-confidence that has allowed him (and his wife, who is also a surgeon here) to find their own equilibrium within the model. “Basically, to be here at Aravind, you have to be able to link your own growth with the hospital’s growth. It’s interesting when I talk to old school friends at this stage,” he says thoughtfully, “I realize that at a basic level, what they and everybody else really wants out of life, is to make a difference. And you can do that either by creating something like Aravind -- or by supporting something like Aravind. Being here, it is easy to make a real difference.”

Aravind’s patient pool requires 60% of its surgeon manpower to focus on cataract treatment. For this to work seamlessly Aravind attempts to maintain a higher ratio of residents and junior doctors, to senior specialists. With a mission of eliminating curable blindness, the organization can accommodate only so many surgeons like Shukla. His good-natured scorn for cataract surgery and preference for spending more time in research, if too broadly mimicked, could throw the model out of balance. But countering that reality is the recognition that he and others of his ilk do add crucial value to Aravind’s ecosystem.

To serve its mission, Aravind’s leaders know they need an engaged body of professionals with diversified interests in teaching, research, community outreach, specialty care, surgery and clinical work. But how does it ensure that these multiple motivations all operate within a framework that stays true to Aravind’s founding values? “Dr. V was a very unusual person in that, as a doctor, he really saw systems as important,” says Fred Munson, the retired American Professor of Hospital Administration who worked closely with Thulsi to set up some of the early administrative systems at Aravind. “Trying to put people within a framework is something that doctors really resist, and here was Dr. V recommending it very strongly for himself and others.”

Individual variations introduced by scale are less likely to distract from the mission because the processes underlying Aravind's massive system are designed to drive and reinforce its values: equitable care, high quality, hard work and transparency. For example, outreach eye camps are compulsory for all doctors, rotations ensure that all surgeons operate on both paying and free patients, intensive monitoring ensures quality outcomes across both sets of patients, a six-day work week maintains commitment and rigor, and the deliberate de-linking of staff salaries and patient load prevents misaligned incentives.

"From the view of Dr V's world, if you do more for more people – that is good for you, as a person. It's a blessing you have got, and it doesn't have to translate into more money in your pocket. Not everyone likes this philosophy; those people move on," says Dr. Aravind simply. "There are very few people who can go against the system. Good people in a bad system typically go bad. Bad people in a good system become good. That sounds simplistic but it's true. For the majority of us, the system becomes your dharma," he says. Dr. V's approach was to create virtuous systems that corrected for individual variations – by doing so, he steered a return to the heart of what medicine is all about.

Most doctors choose their profession out of an aspiration to ease people's suffering. Once they enter the actual practice of medicine, that motivation is often choked or displaced by the exigencies of the profession: misaligned hospital policies, corporate interests, the politics of the insurance industry, or the fact that much of modern medicine is driven by profit motives. The rigor of business does play a valuable role in compassionate health care. In Aravind's own case, the careful use and monitoring of resources supports a just and efficient system that functions better for all. But the key difference is that, in much of the world, delivery of healthcare is fundamentally driven by *the notion of limitation* – a fundamental assumption that there is simply not enough to go around for everybody's needs. Freedom from that notion is Aravind's most potent and paradoxical quality.

The self-imposed constraints of quality, compassion and self-reliance that Dr. V chose, gave Aravind's founders the liberty to pursue their outlandish mission with integrity. Yes, they had to work insanely hard, but within the framework they had set for themselves, the pressure of their

mission could not push them in directions that compromised their principles. These constraints then, provided Aravind with its most triumphant freedom: the freedom for its doctors, nurses, managers and other employees to stand by the original values of healing that drew them into the field to begin with.

The enormity of the mission Dr. V set necessitated incredible invention. It pushed the founding team well beyond self-centered, complacent solutions and fostered what global activist Lynne Twist calls sufficiency, "an intentional choosing of the way we think about our circumstances, an act of generating, distinguishing, making known to ourselves the power and presence of our existing resources and our inner resources." It is this mindset of sufficiency that spurred Aravind to identify resources and create relationships in unexpected places – from community leaders and high school educated village women, to grateful patients and retired physics professors. It prompted the leadership to use these resources in original ways and account for them with a high degree of integrity; whether it was making their own brooms, repairing their own instruments, monitoring surgical volume fluctuations or calculating the case-finding cost per patient at each of its camps. And ultimately it unleashed a generative force that went well beyond the realm of finance, and into the powerful domain of resonant, skilled human resources, and goodwill capital.

It is clear that much of the model stems from the precedents set by the founding team. A group led by a man for whom selflessness was a daily aspiration, and whose deepest asking was always for others. "To have no attachment to the result of action," wrote Dr. V in a 1988 journal entry. "To have no ego. Mentally I plead for some actions. 1. Better health for all people. 2. Basic needs for all people." And in another two-part entry that would follow: "What are you. You represent only a little bit of consciousness and a little bit of matter. It is that you call myself." And then comes a brief sentence of flaming sincerity and surrender to the greater forces for good that he called the Divine: *"Make of me what you want"*.

To truly understand the conditions that gave rise to Aravind, it is not enough to examine the founding team's history of sacrifice, their self-imposed constraints, and the approaches that emerged. You must trace the fruits of Dr. V's vision back to the fertile soil that gave rise to that intrepid proclamation – *Make of me what you want*. He did not mean it lightly, and the evidence

is buried in plain sight across the organization. The patient reception area of each one of Aravind's hospitals displays the same daring assertion: a large, mounted print of a quotation from the Mother, written in her graceful, spidery hand: *Finally it is Faith that cures.*

PART III A VAST SURRENDER: ON INNOVATION & INNER TRANSFORMATION

In a contrary balance to earth's truth of things
The gross weighs less, the subtle counts for more
On inner values hangs the outer plan
– Sri Aurobindo

CHAPTER 9: HUMANKIND IS A WORK-IN-PROGRESS

Dr. V is in his office. He is wearing thick, black-framed spectacles and his head is tilted attentively over a massive book. Approaching 24,000 lines, *Savitri* is reportedly the longest epic poem ever written in English. Composed in unrhymed iambic pentameter, its lines hold a rumbling grandeur.

"All he had done was to prepare a field;
His small beginnings asked for a mighty end"

On the wall behind him are two black and white photographs. When Dr. V is at his desk, the portraits seem to look out over his shoulders. To the left is Sri Aurobindo, the man who penned the lines being read; he has a flowing white beard and a noble bearing. To the right is a woman's face, her gaze direct, her smile deep and warm. Mirra Alfassa is the name she was given at birth but she is better known as the Mother.

The story of *Savitri* traces back to an old legend tucked into the labyrinth of India's celebrated epic the *Mahabharata*. In the original telling, Savitri is a beautiful princess who, by the tidal force of her love and purity of spirit, vanquishes Yama, the Lord of Death, to win back her husband's life. In Sri Aurobindo's symbolic treatment of this tale, Savitri's quest represents the adventure of life and consciousness on earth, an evolutionary journey in which Man transitions through successively higher planes of consciousness, setting the stage for a total transformation of life as we know it. *Savitri* was composed over more than twenty years and Sri Aurobindo (a prolific writer who earned nominations for the Nobel Prize in Literature from Pearl S. Buck and Aldous Huxley), is said to have written each stage of this vivid, spiritual epic from the level of consciousness it describes.

This Light comes not by struggle or by thought;
In the mind's silence the Transcendent acts
And the hushed heart hears the unuttered Word.

These three lines hint at the subtle framework Dr. V leaned on in his decision-making. In an active mode of stillness and surrender (labeled meditation, prayer or concentration in the world's spiritual and religious traditions), Dr. V frequently experiences a sense of inner clarity and guidance.

"A vast surrender was his only strength."

Dr. V uncaps his pen and carefully inscribes that last line in his journal. Then he shuts the book and reaches for his cane, "It's a wonderful blessing to start the day with a reading from *Savitri*," he says simply.

In some ways it is 'The Big Book of Everything.' As the Mother put it, *Savitri* covers "the history of evolution, of man, of the gods, of creation, of Nature." It is by no means an easy read. Sri Aurobindo's writing is decidedly esoteric, his style maze-like and uber-literary. And yet, framed between the gaze of two spiritual teachers, this is how Dr. V has greeted his day -- every day -- for the last forty years. Each time he reaches the end of the book he turns to the beginning and starts all over again. He does this with a wisdom that knows some forms of understanding cannot be hurried. "It is very difficult to understand *Savitri,* "says Dr. V with a smile, "Just like it is very difficult to realize the soul. But you keep trying, and sometimes you get an inkling of it."

Soul, stillness, and surrender – these are difficult words to fit into organizational strategy and they do not make it into most public analyses of the Aravind model. The spiritual underpinnings of the organization, if written up at all, are treated as decorative detail: Sri Aurobindo is given a perfunctory nod as the organization's namesake, end of story. But when asked to what he attributes Aravind's success, Dr. V has an unequivocal response. "Grace," he says, "It all happened by grace."

It is an answer that might be dismissed if Dr. V was an ineffectual personality, and if his faith had translated into some kind of dreamy rapture. But to meet Dr. V is to know the sharpness of his mind, the practical bend of his purpose and to recognize there is nothing vaporous about Aravind's work.

Every organization operates with a set of reference points that reflect its ultimate motivation. Aravind too, through Dr. V, has a touchstone. If unexamined explanations of Aravind's work and what it offers the world will always be incomplete.

Dr. V believes Aravind's work is a manifestation of the spiritual teachings of Sri Aurobindo and the Mother. Whether this is true or not is irrelevant. The objectives, systems and culture of Aravind certainly do not demand belief in spiritual influence to work. But the fact remains that

they were created and defined by one man's sense of an inner reality. This is why one cannot short circuit Dr. V's spirituality when tracing the path of Aravind's evolution. It threads through everything: his priorities and perspectives, his vision for Aravind, his leadership practices, and the unique impact he has on the people who work with him. It is what linked one man's individual quest to the evolution of the largest eye care facility in the world.

Born in Calcutta in 1872, Aurobindo Ghose was shipped to England as a child by an Anglophile father, determined to have his son bred among the English. In his teens Ghose won a classical scholarship to Cambridge where his gift for languages led to prodigious mastery of over half a dozen different Romance languages. But when newspaper clippings from colonial India brought him a whiff of the country's tumultuous political scene his focus shifted. Ghose joined the 'Lotus and Dagger' a dashingly named underground society whose members pledged to work for India's independence, and at twenty-one he turned his footsteps back to his homeland for good.

Ghose took on an administrative position with the then ruler of Baroda (a princely state of West India). In his spare time he pursued an in-depth study of India's languages, history, classical art, scriptures and politics. A self-proclaimed atheist he came to a curious bend in the road when a *sanyasi* (holy man) saved his brother from a fatal illness. An unshakeable intuition descended on him then, that there dwelt a vast, untapped power in humankind that could be put to use for India's freedom.

Following the ancient traditions and techniques of the East Ghose began a process of inward focus and meditation that accelerated into a series of revelations and profound experiences of an inner reality. During this period he also began to dedicate his public life to India's independence movement, shooting with meteoric speed to the top ranks though only in his early thirties. As editor of a fiery and influential national publication his voice urged the country towards radical non-cooperation with the British government. Ghose's hardline stance on self-rule and his rising popularity did not go unnoticed. He was arrested and jailed multiple times on charges of conspiracy and sedition.

It was while serving a period of solitary confinement that he received a powerful inner intimation that the freedom of India was certain. He felt commanded to shift the focus of his work to

liberation of a different nature. In 1910, in answer to this inner voice, he escaped to Pondicherry, a French enclave in southern India where the British could not arrest him. The move signaled the abrupt end of his political career and the beginning of the concentrated spiritual pursuit that would occupy Sri Aurobindo, as he came to be known, for the remainder of his days.

"*Man is a transitional being*," he would declare, "*He is not final*." A conviction that evolution is incomplete, that humankind as we know it is a work-in-progress and that it is destined to realize a collective and radical transformation of consciousness is central to the approach Sri Aurobindo developed and termed Integral Yoga. According to him, this ascent to the top of the evolutionary staircase is inevitable, because it is both "*the intention of the inner spirit and the logic of nature's process.*" In other words, it is a journey that is being worked out by our own deepest purpose in conjunction with the laws of the universe.

There are two ways in which Sri Aurobindo's philosophy differs from most traditional Eastern belief systems. First, awakening or enlightenment is not the end goal. Sri Aurobindo was pioneering the idea that humans have the capacity to shape their lives in harmony with the deeper forces at play, and that by doing so they help all creation through an evolutionary leap to its summit potential. Second, he did not advocate retreat from worldly activity and renunciation of material concerns in pursuit of realization. He defends life on earth as the real field of growth and progress. His Integral Yoga proposes a sweeping canvas that includes all spheres of the human experience: mental, physical, emotional and spiritual.

"The evolution of consciousness and knowledge cannot be accounted for unless there is already a concealed consciousness in things with its native and inherent powers emerging little by little," wrote Sri Aurobindo. In his framework, nothing comes from nothing, and *everything* contains a seed of a higher, cosmic intelligence. He termed that hidden seed the Divine. "Aurobindo is a stupendously great guy," says Michael Murphy, co-founder of the Esalen Institute in a spirited magazine article titled 'Why Sri Aurobindo is Cool'. "He opened up so much. Hardly anyone has this vision that puts the two together—God and the evolving universe. Hardly anyone!"[45] This capacious framework would eventually spill into a more decentralized global movement. Sri

[45] Craig Hamilton, "Why Sri Aurobindo Is Cool", Enlightenment Magazine, Spring-Summer 2002

Aurobindo's work is considered foundational to the field of Integral Studies that flourished in the mid-to-late 20th century, encompassing, among other fields, psychology, religion, cultural anthropology, environmental sustainability and organizational behavior. To Murphy and many other modern day thinkers, Sri Aurobindo was an influential frontrunner charting an exciting course to the birth of a new planetary consciousness.

In 1920 a woman named Mirra Alfassa joined Sri Aurobindo in Pondicherry. She was a Parisian of Egyptian-Turkish descent and an accomplished artist who had experienced a series of deep spiritual and psychic experiences since early childhood. Alfassa would become Sri Aurobindo's spiritual collaborator, and he later named her 'the Mother'. In 1926, when he retired into semi-seclusion (a period that lasted till his death in 1950), Sri Aurobindo entrusted to her the entire practical manifestation of Integral Yoga, including oversight of the Sri Aurobindo Ashram, the care of its residents, and directorship of its diverse initiatives.

Legendary among disciples for her force of compassion and intuitive faculties, the Mother, was also a skilled administrator and avant-garde educator with an astonishing capacity for organization building. Though in the West she and her writings are less well known than her counterpart's, it was her progressive views on the future of society that mapped out Auroville, the world's first and only internationally-endorsed universal township, founded in 1968 as 'an experiment in human unity and transformation of consciousness,' near Pondicherry.

One of the most intriguing things about Dr. V's connection to his spiritual teachers is that he met Sri Aurobindo just once, and the Mother only a handful of times; never for more than a few minutes and with minimal exchange of words.

For the last twenty-four years of his life Sri Aurobindo appeared to the public only on limited occasions. Dr. V arrived in the quaint, seaside settlement of Pondicherry on one such *darshan* (sacred viewing) day in 1950. On these days the Mother and Sri Aurobindo offered their silent blessings to the thousands of people who filed past them. Dr. V recalls the experience briefly in his journal, "Sri Aurobindo's skin was a golden color. He was wearing a dhoti with a big red border like that worn by priests in the Vaishnava Temple. He had his eyes closed. Mother opened her eyes to see me. I did not have any reaction or [feel] a Force."

No flash of recognition or visions of divinity, and yet, there was something to the experience and in the teachings that led him back to the ashram again and again. Dr. V became well acquainted with many of the ashram's oldest disciples. Burdened by the early challenges of his work in eye care, he took comfort in their counsel, turning to them for guidance in the practice of Integral Yoga.

Sri Aurobindo and the Mother did not codify a set of techniques or methods in their teachings. Maintaining that the path to transformation is highly specific to each person, they instead emphasized an ecumenical approach comprising skillful aspiration, rejection and surrender as means to progress. In this tri-fold framework aspiration is defined as a sincere dedication towards realizing truth and perfection in all aspects of living. Rejection is the diligent refutation of hindrances -- any movements of thought or action that cloud the consciousness and impede truth. And surrender is the deep, unconditional opening to the influence and will of our highest nature.

The secular idea of working to be an instrument of emerging perfection within the field of daily living is the gateway that people from different backgrounds and religions use in coming to Sri Aurobindo and the Mother's teachings. It was an approach that appealed deeply to Dr. V. For him, the framework of Integral Yoga was a natural continuation of lessons seeded in him by his father, a stern disciplinarian. And later by the wisdom of Swami Vivekananda and Mahatma Gandhi, who both maintained that work is elevated to worship when carried out with an attitude of inner attunement.

The more one examines Dr. V's life the clearer it becomes that it is not broad strokes of genius, or recurrent flashes of brilliance that set him above others. His accomplishments are made up of a steady succession of disciplined moments accumulated over a lifetime. Moments inhabited with empathy, a passion for excellence and the stamina for hard, humble work. "I have been doing yoga since 1936 from the age of 18 years consciously, or unconsciously," writes Dr. V in a journal entry.

Dr.V uses the word *yoga* to define any movement towards perfection. In medical school he had a professor who upheld Sri Aurobindo's maxim, "All life is yoga." "Whether it was sharpening a scalpel, studying, or dissection he maintained that one should always aspire to 'do Yoga.' These things helped me," says Dr. V reflectively. "These things became a part of me. Discipline became a part of me, hard work became a part of me and the aspiration for perfection too became a part of my nature."

There are friends of Dr. V who remember the poignant sight of him sitting on the floor of his dorm room patiently drawing and redrawing anatomy diagrams with his afflicted fingers until they were exactly right. With rheumatoid arthritis, it is common to have sudden flare-ups of inflammation and acute pain after the disease appears to have gone into relative remission. Simple tasks of everyday living become difficult: tying shoelaces, opening jars, and buttoning a shirt, to say nothing of performing cataract surgery. It would take the young doctor time and much effort to pick up the surgical skills and speed needed in the field. He worked patiently at the operating table day after day, using the same instruments as other surgeons, but holding them at a different angle in his disease-wracked fingers.

"People often notice that he is a surgeon with gnarled fingers," says long-term Aravind volunteer Dr. William Stewart, "And yet he is a surgeon of perfection, and where his fingers may not be aligned, where his fingers may not be perfect -- his soul is perfect and a soul is a much more powerful tool for the surgeon than his hands."

In this contemporary age the word perfection can conjure up notions of an unfeeling flawlessness that compromises our sense of what it means to be human. But in Sri Aurobindo's framework it denotes something different. "That perfection whether you call it god or divine or wisdom or love or universal spirit -- the label doesn't matter -- it is the consciousness that surpasses any form which we can give it," says Vijay Poddar. Poddar grew up in the Sri Aurobindo Ashram and is a teacher at its International Center of Education. "The entire focus in Sri Aurobindo's yoga is on this inner consciousness, and a belief that, unless one changes oneself, no outer fiddling with the environment is going to work sufficiently." He continues, "This principle applies to everything; sports, education, the arts, business, architecture, economics, politics, medicine – nothing is exempt from this vision. And this is why the Aravind Eye Hospital is

significant," Poddar's voice deepens here with emphasis, "Because it is *not* just an eye hospital in Madurai. It is an extension of this spiritual movement in the field of eye care."

In a 1990s journal entry Dr. V makes his perspective clear, "My interest in my profession is how to make this work a field for inner growth and perfection." And in another entry he writes firmly, "Aravind Hospital aims at bringing higher consciousness to transform mind and body and soul of people. It is not a mechanical structure repairing eyes. It has a deeper purpose."

CHAPTER 10: DR. V'S PRACTICES FOR A PERFECT VISION

In a crisp cotton sari Chitra Ravilla heads up the front steps of Aravind-Madurai and makes her way past the bustle of the front desk to the hospital's meditation room where a lamp has already been lit. Chitra is Thulsi's wife and Dr. V's niece. She heads Aravind's communications department. A few minutes later she emerges from the room with a small white line of freshly applied *vibhuti* (sacred ash) on her brow. It is 9am and this short stop is part of her workday routine.

Many in Dr. V's family value Aravind's connection to the Mother and Sri Aurobindo and harbor a sense of devotional gratitude to these teachers; several of them spend a few minutes in the serene space of the meditation room at the start or end of their day. Relics of Sri Aurobindo are installed here and in the meditation rooms of all Aravind's other hospitals. There are woven mats on the ground and pale floor-length curtains. The housekeeping staff arranges fresh flowers in intricate patterns on the prayer table, where sticks of incense stand quietly releasing their fragrance.

Dr. V is one of the earliest visitors to this room each day. He is a man of morning ritual. Rising at 5 am in the spacious but simple room he occupies on the ground floor of his brother Srinivasan's house, he drinks coffee, reads the newspaper, bathes and dresses before climbing into his car. Aravind is less than a three-minute drive down the street and Dr. V (a cautious driver), honks his horn almost the entire way. In his office he carefully lights two sticks of incense, then carries them to the meditation room. Once back at his desk he begins a reading session that typically lasts forty-five minutes, opening with *Savitri* and followed by other writings of Sri Aurobindo or the Mother. Siblings dropping by with assorted grandchildren are a welcome and not unusual intrusion. Then he returns home for a quick breakfast and is back at the hospital by 8:15. One of the first things he does is check the patient registration and admission numbers.

There is a rhythm to his simple routine that he carries out in the spirit of consecration. This structure and discipline is part of how Dr. V shows up to his ultimate priorities every day.

Dr. V's computer screen displays a rock-hewn statue of the Jain saint Mahavir seated in

meditation. He often marvels at the perfection of the carving. “Hundreds of years ago, those fellows were able to create masterpieces like this,” he is wont to exclaim “Those fellows” is an endearing Dr. V-ism. It can, depending on what he is discussing, refer to: western doctors, CEOs of companies, sportsmen, politicians or modern youth. In this context it refers to India’s ancestors who had it in their power to create such indelible works of art. The possibility of tapping into such intellectual, spiritual, and artistic capacities for present-day use excites him. He has a gift for yoking conventional polarities and putting them to service for sight.

A hallmark of Sri Aurobindo’s Integral Yoga is its synthesis of diverse traditions, cultures, religions, methods and mindsets. Dr. V would attempt to bring this approach to the practical work of blindness prevention. It helped him find relevance to Aravind’s mission everywhere -- in the ancient and modern, the East and West, in science and spirituality, grassroots charity and corporate empires.

“In Frankfurt we were at the airport together and he called me to watch a plane land,” recalls Dr. Pararajasekaram, a consultant with the World Health Organization. “You could see one trolley coming to take baggage, another for loading the trash. ‘That's how we should run our operating theater,’ Dr.V said. He is able to pick up cues like that. He even asks housekeepers at hotels about their training curriculum and the proper method of bed making. He has that kind of inquiring mind and he applies the lessons he learns.”

“I absolutely remember my first encounter with him because it is very unusual to find a man like Dr. Venkataswamy,” says Dr. Larry Brilliant. “I was teaching international health at the University of Michigan. Dr. V came to my office and when he talked about eliminating blindness you got the feeling that this man was either a saint or a complete nut. He kept talking about McDonalds and hamburgers and none of it made any sense to us,” Brilliant’s voice ripples with laughter before turning serious, “But as you began to understand what he had already done in life, he moved you beyond imagining.”

For the hundreds who would step forward to work alongside the Aravind team, one of the compelling aspects of the partnership was bearing witness to a visionary whose driving force was a spirituality firmly anchored in practical action. “The Bhagavad Gita says you’re entitled to the work you’re not entitled to the results. You’re not entitled to the fruits, the successes, rewards,

the name, the fame, the money, the power. And Dr. V embodies that approach. He takes nothing, and wants nothing for himself," says Brilliant, "He is a spiritual warrior as much as an ophthalmologist. But he doesn't then just stop and say, 'I am a spiritual warrior so we don't need to have the best infrastructure, we will just wave our hands around.' He brings in the best techniques, the best equipment and builds cutting edge infrastructure because he was so *practical*. It's an unbeatable combination."

Brilliant himself is no typical amalgam. A poster child of the 1960s, he was a champion of Native American rights and personal physician to Jerry Garcia of the Grateful Dead. From a mountainside ashram in India he would be sent by his guru on a mission to wipe smallpox off the face of the planet. Two-and-a-half eventful years later the young epidemiologist had led his team to the successful eradication of smallpox in India (its last outpost in the world). Brilliant then returned to the United States to a series of dazzling second careers that included co-founding the world's very first virtual community, The Well, heading Google's philanthropic arm and, more recently, serving as president of Jeff Skoll's Global Threats Fund.

There was another twist to his story. In 1978, close on the heels of their time in India, Brilliant and his wife Girija called for a small gathering. "We were thinking we wanted to get the people together who had eradicated smallpox, and give ourselves the chance to do something else like that again," says Brilliant. Among the eclectic gathering of spiritual seekers, musicians, public health experts, and peace activists that evening was a retired eye surgeon from India named Govindappa Venkataswamy. He and a few others cast strong votes in favor of tackling curable blindness. From this meeting Seva Foundation was born and their earliest partner would be the man they would soon dub Dr. V.

It was a collaboration born of serendipity and mutual resonance that shaped both organizations. Seva was a kaleidoscope of quirky, talented, counterculture individuals with star-studded rolodexes. Fresh from conquering a killer disease, they were energized about this new project and looking for a place to start. Aravind at that time occupied negligible space on the international stage. It had very few partners in the United States, a no-name clinic in South India and some crazy notions about what was possible. It was a perfect match.

This was not the usual 'donor agency funds developing world charity' relationship. Dr. V was

not interested in raising money. He wanted help building long-term internal capacity in terms of crucial skill-sets and know-how. He wanted equipment that could not be procured in India and regular upgrades in technology. He wanted trainers, systems thinkers and curriculum builders. "In the early years Seva functioned as a fill-in-the-blank," says Brilliant. "Whatever Dr. V or Thulsi needed we would get. A yag laser or a specialist in administration or a marketing manager, a computer or a network designer; we would find those missing pieces and send them to India."

The partnership would crisscross the globe with the founders attending each others' Board meetings, staying in each other's homes, and a steady stream of volunteers from Seva making their way to the old temple city of Madurai. Seva raised Aravind's profile in the West and over time all the big players in the field of blindness prevention began to partner with what was no longer an insignificant enterprise. "Seva was fortunate to meet Dr V when his ideas were first getting formed," says Brilliant, who is also quick to acknowledge the existence of Aravind's multiple other partners. "It would not be fair to say we discovered Aravind – everybody lays claim to Aravind and values the relationship because it represents this amazing confluence of ingredients," he says, "It's a way of working together. Rich and poor, doctors and patients, East and West, everyone contributing -- and it really works."

Dr. V firmly believed that action motivated by love exerts a force and organizing power of its own. He made cultivating unconditional compassion for all beings a daily goal -- a Dalai Lama-esque endeavor not always easy to pull. In a journal entry, Dr. V details the petty dynamics that can hijack a doctor's best intentions, then dovetails into a stream of consciousness meditation on the nature of the mind:

"You feel drawn to a patient because he's from your village, known to you, and then you try to do your best for him. But at times, a patient is aggressive and demands some privileges. He says 'I know what my trouble is. I do not want to go through all the formalities. Could you see me first?' This upsets you, and with that feeling of annoyance, you treat him. You are not able to disassociate him from his mental or emotional aggressiveness.

Somebody asked Bhagavan Ramana Maharshi [a renowned Indian saint] what he felt when he saw any person. He said, 'When I see somebody, I see his soul and I worship it. It may be clouded by ignorance, meanness, selfishness, greed, jealousy, hatred, but I can see the love in him.' If you could develop that attitude and not react to a person's defects and try to help his inner being, you will automatically do your best for him. To do this you must bring into your own being silence, calmness, and quietude. This needs constant practice. It needs enormous practice to realize the experience of silence in you. You may have it occasionally, and then you hanker for it. It seems to elude you. Your being is accustomed to agitation and it wants it. I can feel it everyday moving in me. I want to live in silence but something else in me wants excitement and runs for it. It feels perhaps the more I get agitated, then the more hard I work. So I shout, give commands to people around me. Perhaps all this helps me enjoy my agitated vibration. You aspire for calmness and peace and you want to love all, but to express it is not easy. Gradually get out of superficial consciousness and go deeper to meet the soul. Live in the soul and be guided by it."

Dr. V aspired to perfect vision. He wanted to be able to see with incisive clarity into the hearts of people, problems, situations – and himself. He was keenly aware of how unguarded patterns of the mind could form into habits and cloud his line of sight; and he understood the constancy of effort required to transcend those patterns. In Integral Yoga an inner poise and self-awareness is the foundation on which you build. Dr. V used his day-to-day work to sharpen these qualities. To him this was not an intellectual exercise but one that required operating from the *soul* – a label that typically comes loaded with religious connotation.

Though commonly interpreted as the spark of divinity within each being, in Sri Aurobindo's framework the soul can also be defined in non-theistic terms as the inner center that holds each individual's highest evolutionary calling. It is the seat of what he called 'true being' and it is from here, he maintained, that a power and wisdom arises that sees perfectly in every instance what *is*, what must be done, and by what means to realize its ultimate purpose. These cues, he says, are typically muffled in layers of ego, conditioning, and negative tendencies. But, through persistent aspiration and effort, the presence of true being can be encountered and increasingly dwelt in.

Dr. V found it an elusive but fulfilling residence, “Today I had a nice experience of living in the soul,” he records candidly. “Experienced the richness of it and its persuasiveness over all.” Not only did he strive for this depth of being in himself, he aspired to meet others in that place within themselves as well. “Seek the soul of the person not his money or power,” Dr. V urged himself.

His sister shares a charming story of once berating a janitor at Aravind for some minor infraction while in Dr. V’s presence. Dr. V said nothing at the time but later on he asked her, “Did you shout at his body or at his soul, Natchiar?” Not knowing how to answer she remained silent. “Shout at his body,” Dr. V told her, “His soul belongs to God. If you shout at his soul you are shouting at God.”

Holding that vision for each person’s highest potential, whether employee, patient or partner, shaped Aravind’s model in important ways. It created a density of interconnections that were built not on transaction – but trust. This is what first enabled the organization to see surgical assistants in village women, outreach advocates in indigent patients, and partners in its competition.

In Integral Yoga the state of consciousness from which any action is generated is believed to determine its transformative power. This means that even good intentions geared to selfless outcomes are more hindrance than help if they originate from a low level of consciousness. This is why the quality of one’s aspiration is so significant in this framework.

According to Sri Aurobindo, aspiration, the first element in his tri-part apporach is vital for approaching the soul. This aspiration is a deep thirst, a commitment to one’s own evolution or self-perfection, and a determination to move in the direction of one’s highest purpose. Dr. V wrote of the frequent, internal tug-of-war he experienced between pure aspiration and restless ambition, and he often calls himself out on the distracted impatience of his desire to serve.

“Lots of times I get lost in small things like a better order for seeing patients in camps or hospital, better training of doctors, building a better kitchen for patients, etc. There was a sweepers strike. Got mentally worried. To watch yourself by stepping back is interesting,” he writes, “Worry over imaginary things. Normally mind gets frequently bogged with needless

problems, confusions. You get Ambitious of having more and more Health jobs, Hospitals etc. To keep the mind absolutely still, to understand the reaction, impulse and attitude and to work from the soul is the Aim."

Achieving perfect vision requires a diligent stepping back from biases, judgments and the unwholesome internal movements of anger, jealousy, impatience and the like. To see things as they truly are and to have that transparent consciousness organize your actions requires persistent self-examination. "You want to live deep within," observes Dr. V in his journals, "But you get upset by so many superficial things or you get elated because of some superficial achievement. How will you guide Aravind, Seva or other service organizations. First thing to do is for you to live in your soul. Do not allow mental prejudices to cloud your thinking. To surrender yourself to the higher qualities in you is your constant effort. Do not limit yourself to small things."

This process of skillful rejection is the second element in Sri Aurobindo's approach, and one that fits into its third and perhaps most challenging aspect: Surrender. The word does not imply passive submission but an active and dynamic giving of one's entire being in service of goodness, love, perfection, divinity or whatever represents the place of 'true being' within. "It is difficult to understand surrender," admits Dr. V, "Constantly your mind has got its own fixed ideas or opinions. You get strongly attached to what you think is right and come into conflict with people who differ from you. You are not able to step back and watch your ideas. Lots of times, these ideas are based on the impressions of the mind, and not the higher spiritual consciousness."

Dr.V persistently observed the nature of his mind, and came to a startling conclusion. "I realize that reason is a very poor tool for finding out Truth," he says simply. And this is where Dr. V's spirituality gets particularly interesting.

The mechanics of how Aravind works is covered in some detail by business case studies, but they fall short on the more abstract questions of what created and continues to animate the model. Through a continued process of aspiration, rejection and surrender, Dr. V was able to tap into an intelligence beyond the thinking mind. Seeking a realm of awareness, stripped of ego, fears, biases, and preconceptions, often provided him with answers, ideas and convictions that

ran counter to the rational and dominant paradigm.

Dr. V made several crucial decisions for Aravind that were rooted in the inexpressible logic of his deeper awareness; for instance his insistence on inclusive services and self-reliance, his turning down of various attractive partnership opportunities and squelching of seemingly favorable expansion plans, not to mention his selection and grooming of doubtful candidates for key leadership positions. His approach often worked inversely, with decisions coming long before any rational justification. This took some getting used to. But Dr. V's team possessed a rare degree of tolerance and trust that paid off time and again. They grew accustomed to seeing reality catch up with his preposterous ideas.

In pragmatic terms Dr. V's ability might be called foresight. He had an uncanny knack for intuiting decisions that yielded tremendous benefit – sometimes five, ten or even twenty years down the line. His journal entries through the decades bear evidence to this. In the late 1970s when he was still paying off the mortgage for the first hospital and struggling to pay staff salaries he writes of intentions to set up a 100 hospitals across the country, of the possibility of training village women to assist surgeons, of the urgent need for good administrators, and of the target of doing a million surgeries a year. He mentions plans for hospitals in places where land will be purchased and hospitals built decades later, and records insights into the nature and potential of young staff members who are now part of the senior leadership team. The language he uses is telling, "Last night there was a revelation…", "I had a dream or vision of…","Today an idea came to me", "I had a feeling or experience that…". These phrases are all indicative of another agency than the analytical mind that even Dr. V himself cannot fully explain. "All my actions are not based on reason. I have been guided mysteriously all my life for the Divine to do its work," he once wrote in a laconic journal entry.

Though drawn equally to both Sri Aurobindo and the Mother as teachers, Dr. V's sense of connection to the latter is more personal (a not unusual asymmetry among their followers given Sri Aurobindo's long seclusion). She became a channel for the devotion that is a very real part of Dr. V's spirituality, and that is often his refuge and strength. The last time he saw the Mother she was 94 years old. A long-time disciple had arranged for a private audience and Dr. V recalls the searing, silent encounter in a journal entry nearly twenty years later, "I can never forget the last blessing in 1972. Mother had such a penetrating look. She intensely gazed in my eyes for a long

time. It felt like three or four minutes I had no thoughts. It was a big experience. *What she did in me I do not understand*."

Dr. V had a distinct sense of having received a benediction of love that would continue to reverberate and ripple through his spirit, thought and action long after the encounter. He experienced multiple times in his life subtle physical sensations that he correlated to this force, such as the ones detailed in this entry from 1991: "Last night I had a clear indication of Mother's Force entering me. I felt a wide space inside my inner being. I felt deep inside me there was a presence with a small light, just a spark. I felt it must become a fire burning strongly. Felt a good will, feeling of benevolence. I could stand up strongly without being moved by anything."

In 1992, Dr. V was invited to give a lecture at Harvard University's School of Divinity on "Living a Spiritual Life in A Contemporary World". Standing at the podium, dressed in an ill-fitting brown suit purchased from a thrift store, he puts words to his experience of grace, "You feel that sometimes you get illumined or inspired. They say the higher your consciousness goes, that consciousness is able to plan out everything, set a base for you to do your work. With the awareness that your intentions come from a different consciousness level, you are not egoistic and you are able to work with the great confidence that comes only with that faith and realization. And so we attempt at Aravind to bring in higher levels of consciousness and to work in a different method, as an instrument in the hands of a higher force."

To Dr. V the cultivation of compassion, the effort towards equanimity and self-awareness, the stepping back from ego and the attempts to align with a clear-sighted, inherent wisdom were all part of his larger aspiration to be a perfect instrument. While many spiritual traditions advocate the practice of working selflessly as a channel of a higher force, not everyone relates to this aspect of Dr. V's vision. In fact not even all the senior management at Aravind resonate or practice it to the same degree.

But there are other people whose lives have been architected in a similar vein. Among them is a remarkable contemporary of Dr. V's. A man who has absolutely no doubt about whether this form of agency works, and how it played into Dr. V's abilities as a leader and institution-builder.

Ram Dass, born Richard Alpert, is the Harvard psychologist whose controversial research on psychedelic drugs and human consciousness booted him out of academia and eventually up a mountain path in northern India to the feet of his guru (the same teacher who ordered Larry Brilliant to the front ranks of the battle against smallpox). Neem Karoli Baba was a unique teacher with a trademark checkered blanket, endearing smile, and profound mystical depth. Described by many as a staggering force of love, his teachings were encapsulated thus: "Love all. Serve all. Feed all." It was he who shredded the young professor's academic concepts of consciousness by prodding him towards deeper realizations of the spirit. Ram Dass went on to become a teacher in his own right, inspiring millions across the world with the touchstone book of the 1960s, 'Be Here Now'. He was also a co-founder of Seva Foundation.

With his white hair and penetrating blue eyes Ram Dass is an arresting, sagely figure. In 1996 he suffered a massive stroke that he now refers to as an act of "fierce grace". He indicates how that dramatic brush with mortality and suffering is common ground between himself and Dr. V. "He was a budding doctor when his arthritis took hold…and then he became an eye surgeon…He just saw it as grace and I think perhaps that his example helped me with my stroke," says Ram Dass chuckling softly, "Because he worked with what he got – and now I work with what I've got."

His first meeting with the doctor who had an eleven-bed clinic and multi-storied vision left a strong impression on Ram Dass. "We at Seva were trying to be *karma yogis* [someone who has perfected the art of selfless service]," he says, "Then a real one came along: Dr. V."

Like many others Ram Dass would be struck by Dr. V's ability to lasso people with his vision, "Your life would be going in one direction and then you'd meet him and go in another direction," he says laughing, "His will was the bottom line." Ram Dass then turns serious while speaking of Dr. V's intuitive interactions, "When I was with him my role, my potential through his eyes was clear," he says slowly, "Nobody else except my guru treated me that way. My personality pushed away my spiritual role. Dr. V reinforced the role by treating me as a soul."

Ram Dass does not beat around the bush on the subject of instrumentation. "I have a feeling that Sri Aurobindo runs Dr. V. Just like my guru runs me," he says calmly, stating the metaphysical as a matter-of-fact. "Dr. V's enterprise could not have had this success by normal ways. He

performed, in the world of blindness, *a miracle*. Institutions, rules and procedures, he treated them like silly putty – he could mold them. He has a vision from a next level. I saw how his faith worked. Even when everybody knew what the situation called for – he would hear off-screen that we should do it a different way. He was dancing to a different drummer."

Dr. V set the direction of Aravind to that tune. It would influence many of the organization's most radical innovations and one of the most controversial and ambitious decisions in its history. A decision that was made against the better judgment of the overwhelming majority and that no one in 1976, had remotely even suspected was on the horizon for this tiny clinic.

CHAPTER 11: MANUFACTURING A REVOLUTION

In Madurai, there is usually a long line of patients outside the free section of the Aravind Eye Hospital. It is not uncommon to find an elderly man among them, wearing a crooked pair of spectacles fastened around the head with a piece of string. The lenses of these glasses are as thick as your index finger. They magnify the eyes, giving the wearer an air of absurd gravity.

These are cataract patients from the fast dwindling era of aphakic surgery, a procedure that emerged in the mid-18th century and remained the standard for over two hundred years. It involved making a large slit along the rim of the cornea and removing the clouded cataract lens. This lens-less condition was referred to as aphakia. To replace the lost focusing mechanism, patients were given 'soda bottle glasses', heavy spectacles with a high refractive power. When Aravind was founded in 1976, the standard for cataract treatment in India was a particular type of aphakic surgery. It was relatively quick, straightforward and inexpensive. Because the patients operated on were almost blind, the results of the surgery were dramatic and had an immediate, positive impact on quality of life. But it also had a serious set of drawbacks.

Early stage cataract is too soft to be easily extracted by aphakic surgery. Often, patients were advised to postpone surgery until the cataract was hardened and 'mature'. Because operating on one eye resulted in mismatched image reception, surgery was delayed until both eyes were affected. This meant their vision often deteriorated to complete blindness before they were treated. Following aphakic surgery, patients had to stay in the hospital or eye camp for a full week under close medical supervision. Complete recovery took another six to eight weeks. For people accustomed to working in rural settings, the spectacles were problematic; heavy, breakable, scratch prone and easy to lose. But without them, the patients were functionally blind.

When Dr. V first started doing cataract operations there were no better options to this technique. By the 1980s, however, this was no longer true. Across the Western world a dramatic advance was transforming the field of cataract surgery… but its benefits were still far from the shores of India.

In the aftermath of the Second World War, an English eye surgeon named Harold Ridley treated several patients who had been injured in combat and made an inadvertent discovery. Pilots

whose eyes were wounded by plastic shrapnel from the cockpit canopy of fighter planes seldom developed eye infections. Time and again, the surgeon saw that an acrylic shard could lie inert in the eye for long stretches of time with no adverse reactions. Ridley had stumbled upon a possible implant material – non-reactive, transparent and light.

On a November morning in 1949, Ridley implanted the world's very first intraocular lens (IOL) in the eye of a 49-year old woman who had just had her cataract-clouded lens removed.[46] He knew he was treading dangerous ground. Ridley's invention was the forerunner of a new field of biomedical engineering that arrived decades before the first pacemaker or artificial kidney found its way into a human body. This surgery was a radical departure from the way medicine had been practiced for centuries. Until then, surgeons had focused on skillful *extraction* – of tumors, foreign bodies and toxic substances.[47] Now here was a procedure that had the audacity to do the opposite -- replace a flawed product of nature with a working man-made substitute.

The opposition in the academic and medical world was as fierce as the implications of this discovery were tremendous. The IOL's evolution and eventual acceptance in the West took three decades, and involved a slow series of advances in design, manufacturing process and surgical technique that successively ironed out the kinks in the original invention, and made the benefits of the new technology increasingly clear.

The intraocular lens is undeniably one of the greatest innovations of ophthalmology and a gift to humanity at large. Today more than 10 million IOLs are implanted every year and have directly helped more than 50 million patients worldwide.[48] And yet, its early history in the West,

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[46] Yanoff, Myron, Duker, Jay S. *Ophthalmology*. London: Mosby Elsevier Inc., 2008

[47] David J. Apple, "Sir Harold Ridely: A pioneer in the quest to eradicate world blindness", Bulletin of the World Health Organization, 2003, 81 (10)

[48] Buddy D. Ratner et al, editors. *Biomaterials science: an introduction to materials in medicine*. London: Elsevier Academic Press, 2004, and David J. Apple, "Sir Harold Ridley: A pioneer in the quest to eradicate world blindness", Bulletin of the World Health Organization, 2003, 81 (10)

beleaguered by professional opposition, would be strangely mirrored on the other side of the globe with Aravind right in the eye of the storm.

Dr. Richard Litwin sits in a wicker chair on the shaded steps of Harmony, the Aravind guesthouse in Madurai. In his black beret and white beard he looks more like a fashionable summertime Santa Claus than a practicing ophthalmologist from California. Like most long-time friends of Aravind, Litwin can vividly recall the first time he met Dr. V. It was in Pondicherry, the year was 1981, and the occasion was a surgical eye camp. Litwin's soft voice threads this story and tugs it gently into the present.

"Dr. V had control of this very large movie theatre. It had been transformed into a hospital and there were what seemed to be hundreds, perhaps thousands, of people neatly in line, moving through. It was mind-boggling to me. I come from a country where procedures are done one at a time," he says. "People were marched up to these operating tables, a quick transformative procedure was done and by the end of the week they could all see. It just seemed -- magical. A transformation of the way medicine could be done." Very shortly after that camp, Litwin himself would be harbinger of another crucial transformation at Aravind.

"We saw an elderly man in Madurai with white pupils; totally mature cataract. Now you could remove his cataract and give him aphakic glasses, but that wouldn't help this man," recounts Litwin. "He was a carpenter and Dr. V told us that no one would hire him after surgery. The results of aphakic surgery would be insufficient to re-integrate him into his line of work. I demonstrated the new IOL surgery on this guy for Dr. V, with Dr. Natchiar assisting," Litwin recalls, "Now a good surgeon can just look at something and he knows instinctively, "This is a go." Dr. V saw it and he knew: 'This man will be able to go back to work!' he said. It only took one demonstration for him to know that *this was it*," Litwin recalls.

It was a defining moment. Aravind was not performing IOL surgeries at the time. Hardly any hospitals in developing countries were. But now Dr. V had witnessed firsthand how a new technology could enable Aravind to better serve those in need. Unlike aphakic surgery, IOL surgery could be performed on early still-soft cataracts, without needing to wait until both eyes

were affected to the point of complete blindness.[49] IOLs were implanted using a precision-enhanced technique made simpler by sophisticated microscopes. The slit made in the eye was smaller than that used in aphakic surgery and healed much faster.[50] Most importantly, the implanted lenses could be tailored to the precise power required for each individual eye, yielding superior post-operative results, and allowing patients to do day-to-day tasks without the need for glasses.[51] Litwin's wife, Judith, interjects at this point. "Dr. V didn't know how it was going to happen. He always said the money would come and the technology would come. He didn't know how, but he knew that IOL surgery had to be made available to the villagers," she says.

In the 1980s, India was not considered a viable market for IOLs and there were no credible local manufacturers. At that time, a single implant in the US was priced at $200.[52] Rapidly changing technology made it viable for American manufacturers to get rid of their excess stock by selling it at discount rates or donating it to eye-care programs in developing countries and claiming tax benefits. Early on Seva Foundation played a key role by building the necessary relationships and coordinating these transfers, as well as arranging for visiting ophthalmologists to volunteer time training Aravind's surgeons in IOL surgery. The IOL lenses came to Aravind packed between Lonely Planet travel guides and mosquito repellent in the suitcases of medical residents and volunteers from America. This ad-hoc method worked for a while, but when Medicaid forced down the price of IOLs in the United States, manufacturers lost their profit margins and the supply of donated lenses began to dry up. Meanwhile, many patients were willing to pay for this new form of implant surgery and so demand at Aravind was steadily increasing.

"You can't run a public health program on leftovers," Litwin's wry observation is echoed by Dr. Suzanne Gilbert from Seva. "It was one thing for us to support an eye hospital that was doing 10,000 surgeries a year," she says, "But when that number went up to 80,000 at Aravind it was quite a different equation. Asking companies to donate that much was uncomfortable."

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[49] Richard Kratz, "From von Graefe to Kelman: A timeline of ophthalmic advances in the 20th century", Cataract & Refractive Surgery Today, March 2004

[50] ibid.

[51] V. Kasturi Rangan, *Aurolab: Bringing First-World Technology to the Third-World Blind*, Harvard Business School, 2007

[52] ibid.

Senior management at Aravind was also uneasy with the donated-lenses arrangement. It made them externally dependent and seriously compromised their mission of providing affordable, high quality eye-care to all, rich or poor. The prohibitive cost of the lenses and the limitations on supply meant that Aravind could only offer the superior surgery to paying patients. Patients being treated for free continued to receive aphakic surgery, still the conventional treatment for cataract in all developing countries. Thulsi says, "We strongly felt that the IOL was even more relevant to a poor man than a rich man because his living environment is less predictable. We felt the poor would benefit more by the new technique and we had to figure out how to make it affordable for them."

Aravind leadership reached out to international IOL manufacturers, but the widespread feeling was that India was not a viable export market. In any case, these companies were unwilling to make the IOLs available at a price that Aravind judged would be affordable for all. In 1989, the conversation on the growing need for IOLs took a seminal turn. A rather giddy, high-risk solution was starting to make startling sense: if no one was willing to manufacture lenses that India could afford, then Aravind would just have to do it on its own. "I'd never heard anything like it," says Litwin with a chuckle, "A bunch of doctors were going to take on manufacturing."

Aravind had always enjoyed the support of local and international bodies. However, with this new venture several ties were tested. Thulsi recalls, "It was a big struggle because the government was against it and felt that Aravind was derailing the national eye-care program by working at a tangent. Several international funding agencies were also against it – some, who had partnered with us [in the past], backed out at the last minute."

Announcing the idea of manufacturing the lenses in India sharply divided those working in the field of international blindness prevention. Dick Litwin recalls, "A pinnacle figure in ophthalmology wrote this very long article with 18-20 points, some of which were contradictory, about why IOL technology was inappropriate for developing countries. This inspired a spate of articles in [ophthalmic] journals." Those most fiercely against it were powerful, policy level bureaucrats. The high cost of the lenses, the advanced production technology, the specialized surgical training required to implant them, and the investment in the necessary equipment seemed obvious barriers. The World Health Organization, the World Bank and other

international agencies maintained that using IOLs in developing countries was not merely unsustainable but irresponsible. They could not advocate the use of such technology in regions of the world where there was no regulatory body in place to monitor quality of production or surgical outcomes. Harsher criticism accused IOL advocates of encouraging an 'addiction' these countries could ill afford.

Those in favor of Indian production of IOLs were clinical practitioners like Litwin, who had "already been there and done that." From personal experience they knew that IOL surgery could work in India. "Appropriate technology doesn't mean doing the same thing for 200 years," says Litwin staunchly, "To Dr. V the principle of delivering the best possible quality to the patient was key." The question now was how to bring down the prices and scale production of IOLs in order to reach the people in need.

Aravind listened politely to the informed opinions of the majority, but did not participate much in the public debate. As Dr. V says, "It was difficult for us to argue with them. So we just quietly went ahead and did it." His spirit of compassion and dedication to excellence, aligned with the ultimate authority of an internal compass, was all the green light needed. This decision to move forward in the face of overwhelming opposition may have seemed perverse to many, but it also underscores how self-sustainability helps breed innovation. "Having monetary success gave Aravind the freedom to chart its own direction," says Thulsi.[53] Otherwise Aravind would have had to heed the wishes of donor agencies.

Litwin reflects on the lesson in prototyping that Aravind's initiative held for him. "It really taught me that if you're going to do some kind of innovative work the way to go about it is to do it," he says. "And do it on the smallest possible scale that you can manage so that you can say this is how it works, otherwise every theoretician will debate endlessly about the hypothetical results of that action."

[53] Ibrahim et al, "Making Sight Affordable: Aurolab Pioneers Production of Low-Cost Technology for Cataract Surgery", Innovations MIT, 2006

Simplicity has always characterized Dr. Bala Krishnan's life but if you ask him, he will admit with a chuckle, that he once had dreams of owning a Porsche and vacationing in Acapulco. As a young man, taking on directorship of an intraocular lens factory in Madurai never featured on his to-do list for this lifetime. Born in a village, Bala graduated from IIT, one of India's premier engineering colleges. Soon after, his marriage to a young woman named Varalakshmi was arranged. Her family lived in Madurai where her maternal uncle had recently opened a small but well-respected eye clinic called Aravind.

Bala went on to a PhD in Mechanical Engineering at the University of Wisconsin, Madison. After graduating he moved his family that now included two young daughters to Ann Arbor, Michigan, where he worked as a research scientist. They braved the cold winters of the Midwest, bought a house, a new car, and took a trip to Disneyland; their lives echoing in many ways the thousands of other Indian couples who immigrated to the United States. Except that most other couples did not have an uncle visiting them every so often, talking about the urgent need to eliminate needless blindness in the world.

In 1990, after more than a decade of building a life in the United States, Bala and his wife sold their home, packed their belongings and moved the family back to Madurai. They rented a house about a mile away from Aravind and Bala began to study the intraocular lens manufacturing process. Working with him was David Green, a young, energetic Seva Foundation recruit who, like Bala, had no prior experience in the field of IOL manufacturing. For many years Green was the point person in the West for procuring the donated lenses Aravind needed. When Aravind made the decision to start manufacturing the lenses, he was the first on board to help.

Together, Bala and Green did the extensive legwork that was required before actual production started. Aravind had lined up the space and was confident that the resources would be in place to buy equipment and hire the necessary engineers and technicians. What it lacked was access to a key component: the lens-making technology. Attempting to procure it was tricky. IOL surgery was still new enough to be considered a state-of-art procedure, so the lens manufacturing process was heavily patented and closely guarded by the major medical device producers.[54] Seva

[54] Ibrahim et al, "Making Sight Affordable: Aurolab Pioneers Production of Low-Cost Technology for Cataract Surgery", Innovations MIT, 2006

Foundation, through Green, played the crucial role of broker at this stage, initiating discussions with manufacturing companies to find someone willing to enter into a professional partnership with Aravind. It was not an easy sell; partnering with an eye hospital in the developing world that had zero prior experience in manufacturing made the project easy to oppose. Making IOLs required precision machinery, sterilized environments and high levels of quality control. And making the venture operationally and financially sustainable required hardcore business acumen. Says Seva's Suzanne Gilbert, "We were told we were crazy and that the plan wouldn't work. That it could never happen outside of the US, Europe and Australia. That India's heat, dirt, erratic electricity and low worker productivity would compromise our efforts."

It took two years of searching, but finally a small lens manufacturing facility in Florida, IOL International, agreed to work with Aravind. It was a good fit and, despite the delay, perfectly timed. IOL International had reached its full production capacity and was on the lookout for a production partner. "$300,000 for the machine and know-how and then they were willing to take about $50,000 worth in lenses. We went there for two weeks and then they came here for two weeks to train our staff," recalls Bala.

But even as plans for a production facility raced forward, internal doubts began creeping to the surface. Aravind was a well-established organization with high standing both locally and internationally. Entering an unfamiliar arena against the advice of the global community could potentially jeopardize their hard earned reputation. What if their doctors were not up to the challenge of high volume IOL surgery? What if demand petered out? What if the opposition was right and India simply did not have what it took to be able to pull off high quality manufacturing? What if patients didn't want a foreign body implanted in their eyes? The risks attached to the unknowns were dauntingly high. With this new direction, the hospital stood to lose money, face and the faith of the communities they worked with.

In a delayed crisis of confidence, other ethical implications of the venture began to weigh in. Dr. V was familiar with the workings of the medical industry and deeply disliked the culture of cutthroat competition and kickbacks that could be a part of it. As a non-profit dedicated to serving the poor, would the hospital be compromising its integrity by financing this venture? Dr.

V figured it just might. At a meeting of the team that had done the extensive groundwork for the manufacturing plant, he made an off-the-cuff pronouncement that left the group reeling in disbelief. “No hospital money will be used to fund this,” he said.

Suzanne, who was present in the room, remembers the helplessness of the moment, “I loved the idea of Aravind funding this on its own and felt it was in its self-interest to do so. To show the world that it could be done. We'd already come so far – Bala had gone through all the training, moved his family back from the US, so much planning on so many different levels. There we were, all gathered from different parts of the world in Madurai just for this. And then, without warning, Dr. V puts his foot down. We listened incredulously. It was very uncomfortable in the room,” she recalls.

It is not unusual in Aravind’s history to see the brakes slammed on a project at an advanced stage of planning by the same person who set the wheels in motion. Dr. V was as beloved as he was notorious for calling shots based solely on inner guidance, and at certain times was not to be reasoned with. “Sometimes when there is an important decision to be made he’ll say, ‘Let me ask Sri Aurobindo and the Mother’,” says Dr. Natchiar. “Then a couple of days later he comes back with a very clear answer. But there are also times when, if you ask him about taking a particular step or changing some plan he will just look at you for a long while and not say anything, then he will respond with something completely unrelated like, ‘Shall we go eat now?’ and that signals the end of pursuing your idea,” she says laughing. But smiling submission was not always her response to those moments.

In this case, as strongly as he believed in the cause, Dr. V was convinced that Aravind would be making a false move by putting money into the IOL factory. “That was when Dr. Natchiar spoke up,” says Suzanne, “It's the only time I have ever heard her speak so forcefully to her brother.” In Dr. Natchiar’s mind there was no debate. The hospital had to have IOLs. The respectful deference of a younger sister made room for the conviction of a compassionate surgeon who could no longer tolerate having Aravind perform a lower quality procedure on its patients. “If I hadn’t done everything you told me to all these years, I would have lots of money and jewelry by now,” she told her brother, “And I would give all that money and sell all that jewelry now, to be able to get IOLs for this hospital.”

The uncharacteristic outburst was followed by silence. No extended debate about funding followed. But in the wake of Dr. Natchiar's passionate stance, Dr. V's categorical "No" eventually softened to allow for partial funding to come from Aravind. The rest would have to come from external sources. A scramble for collaborators ensued. Seva Foundation, Sight Savers International, Seva Canada, Combat Blindness Foundation, and a number of valiant individual well-wishers worked feverishly to fill the gaps.

Forty-three years after Ridley's first implant, on a morning in 1992, the dream that had seemed unwise and impossible to so many was finally realized. With a ten-person team of production staff and engineers including Bala and Sriram Ravilla (who is Thulsi's youngest brother), the Aravind Eye Care System's modest, non-profit factory division was officially inaugurated on the fourth floor of the Aravind-Madurai hospital. It was named Aurolab after Sri Aurobindo. Its mission was to deliver ophthalmic products of world-class quality at affordable prices to help eliminate needless blindness.

Aurolab had initially aspired only to meet Aravind's in-house needs for intraocular lenses, a cautious approach to reduce the risk of low market response. The factory was thus designed to produce 150 high quality lenses a day. Aurolab began to sell them at the radically low price of $10 (at that time, the imported price of IOLs was around $80-150 per piece), and by 2004, at $5.[55] It gave Aravind the freedom to offer modern cataract surgery to its camp patients for free and to the poor who chose to pay for services, at the steeply subsidized rate of Rs. 500 (~$11).[56]

No one anticipated the explosion in demand that was to come. By 2009, Aurolab was producing 7000 IOLs on a daily basis. In a research paper on Aurolab, a team of graduate students from the University of California, Berkeley would write, "Aurolab is one of the only non-profits in the world that produces medical devices or pharmaceuticals. This socially-driven organization produces ophthalmic technologies more cost effectively than any other comparable manufacturer, delivering their products to over 120 countries and owning 10% of the global

[55] V. Kasturi Rangan, *Aurolab: Bringing First-World Technology to the Third-World Blind*, Harvard Business School, 2007
[56] ibid.

market for intraocular lenses."[57] By the dawn of 2011, 10 million people around the world would see through Aurolab IOLs.[58]

Aurolab, it turned out, would manufacture much more than just lenses. It would produce a revolution, one that was rooted in and driven by compassion.

[57] Jaspal Sandhu, Mahad Ibrahim, Aman Bhandari, "Appropriate Design Of Medical Technologies For Emerging Regions: The Case Of Aurolab", Proceedings of International Mechanical Engineering Conference and Exposition, November 2005

[58] Data supplied by Aurolab; Total sales for 1992-2010 were 1,18,49,699

CHAPTER 12: MAXIMIZE SERVICE NOT PROFIT

Like Aravind, Aurolab presents an uplifting conundrum. It is a factory whose products compete in a fierce, international market. Yet it is run as a non-profit, by founders with no prior production experience, driven by a bottom line that aspires to provide access to the poorest of customers.

The biggest innovation at Aurolab was not around technology. It purchased the same equipment and trained in the standard production techniques of its Western counterparts. The real innovation was around the pricing strategy. As Green points out, Aurolab chose to lower prices not merely because its production costs were lower, but because its goal, "is maximizing service rather than maximizing profit."[59] The low price tag on Aurolab's lenses was calculated based on survey assessments of what villagers estimated they could afford to pay for restored sight – it averaged out to a little over two weeks worth of wages at the daily wage rate of a dollar a day.

The need for businesses like Aurolab is immense. Technology developed in the West does not cross borders easily or quickly. "You end up having two classes of care – first world, and developing world," says Thulsi. What blocks the dissemination of technology is not just the expense, but also a series of related issues including underdeveloped markets, lack of trained personnel, inefficient delivery systems, rigid mindsets and indifferent competition.

Aurolab would need skilled technicians for a series of precise machine supported tasks that included cutting, calibrating, sterilizing, quality checking and packaging of the delicate lenses. Seasoned at training high school graduates from South Indian villages to assist in the operating theater, Aravind calmly fit the assembly line approach back into manufacturing. It used its existing recruitment channel and focus on 'value-over-skill fit' for hiring Aurolab's mainly female team of about 280 technicians.[60] "We have not taken ambitious people, but simple people with a commitment. And then we grow them," says Sriram, Aurolab's passionate and quietly proficient Director of Operations. These young women operate everything from computer-aided lathes to robotic cleaning systems.

[59] Herbst, Kris, "Doing Business with Humanitarian Goals", India Together, February, 2003

[60] Data supplied by Aurolab

Reduced labor costs account for some savings at Aurolab, but it is worth noting that its manufacturing costs are similar to those in the West. Most of its inputs, such as machinery and 80% of its raw materials, are imported. And in raw materials, Aurolab's costs are actually higher than its Western competitors due to high transportation costs and import duties.[61] What this points to is the fact that Aurolab's pricing decisions really do boil down to the company's mission. Adopting Aravind's tiered pricing structure, Aurolab offers separate brands and discounted prices for charitable organizations (Aravind included) while also catering to customers who predominantly serve paying clientele. Non-profit organizations and governments buying in bulk account for as much as 65% of its revenue.[62]

In Bala's words Aurolab is, "an experiment to see how advanced technology and products can be brought to developing countries quicker, to not have to wait until the market matures but proactively drive that demand." Aurolab adds incredible momentum to Aravind's market-driving approach. It allows for backward integration leveraging the strengths of Aravind's existing demand, delivery and training channels.

In retrospect, Aurolab's timing was perfect. When dust from the international debate over IOLs settled, several blindness prevention agencies found themselves ready to accelerate the advent of the advanced surgery in the developing world and Aurolab was ready for them.

In 1994 the government of India borrowed $110 million from the World Bank to ramp up a nationwide cataract blindness prevention program. The program subsidized the cost of intraocular lenses, up to Rs. 750 ($16) per patient, for hospitals that provided free cataract surgery.[63] The program facilitated a considerable spike in IOL demand (even if the subsidy payments themselves were sometimes irregular). This demand both within Aravind, and beyond, coincided beautifully with Aurolab's steady and reliable production of the lenses. By introducing high quality IOLs for the low end of the market Aurolab helped increase the market size by millions of customers.

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[61] Ibrahim et al, "Making Sight Affordable: Aurolab Pioneers Production of Low-Cost Technology for Cataract Surgery", Innovations MIT, 2006

[62] Data from Aurolab

[63] Susan Lewallena and R.D. Thulasiraj, "Eliminating cataract blindness: How do we apply lessons from Asia to sub-Saharan Africa?", Global Public Health, 2010

Simply put, it was also a catalyst that helped blow the lid off the Aravind model's potential. The improved surgical outcomes of IOL surgery coupled with the fact that the new technique reduced recovery time in the hospital, triggered a huge surge in patient volumes across Aravind's paying and free divisions. In 1992, the year of Aurolab's founding, out of the 60,000 patients who underwent cataract surgery only 35% received IOLs. By 2003, the organization performed well over 200,000 cataract operations, with 98% of these patients receiving lens implants. In these ways Aurolab played a pivotal role in increasing Aravind's quality, volume, operational efficiencies and program sustainability.

The affordable lenses also allowed for a landmark shift in surgical training. The high cost of IOLs had severely limited the number of lens implants being done in India, and so there were few opportunities for surgeons to be trained in IOL surgery. This led to a chicken-and-egg problem (not enough lens use leading to a lack of surgical training, which in turn led to low IOL use). Aurolab's lenses broke that cycle and Aravind wasted no time in creating an intensive skill transfer program for IOL surgery. Launched in 1993 in partnership with the UK based charity Sightsavers, and threw it open to surgeons from across the world.

Trainees began streaming in from countries like Afghanistan, Mongolia, Pakistan and Indonesia (also Switzerland, Germany, Israel, the United States and New Zealand). Each year the heavily waitlisted two-month program graduates around 104 surgeons.[64] By making both lenses and training accessible, the Aurolab-Aravind team caused the mainstreaming of IOL surgery and the phasing out of inferior techniques across hundreds of hospitals far beyond its own geographic borders.

Along with its concern for accessibility and high quality standards, Aurolab's personal, low-key approach to marketing was also vintage Aravind. In its first eight years, Aurolab, exporting to hundreds of countries, non-profits and hospitals, had a one-man marketing team - the white-haired, serene Mr. R. Duraiswamy (Thulsi and Sriram's father). . In the following five years that number doubled to a grand total of two. Rather than invest in high-profile and expensive promotional activities, Aurolab chose to let word-of-mouth organize distribution. Aurolab's products found an organic distribution network via Aravind's hospitals, partner agencies, and the

[64] Data supplied by Aravind Eye Care System

doctors Aravind trained who left for other hospitals or set up private practices. The dealership network also evolved in an ad hoc manner with doctors recommending distributers in their area. Even today, with an expanded marketing division and adapted strategies, the company's selling and distribution costs are 9% compared to an industry standard of 15%.[65] Financially Aurolab operates independent of Aravind. While its initial set up required seed funding from Aravind and other partners, it is now entirely self-reliant and its profits are plowed back into new product development or quality improvement.

For the first thirteen years of Aurolab's existence, IOL production was unregulated in India. "Nobody questioned what quality you gave -- nobody inspected," says Sriram, adding, "We thought we should be responsible about maintaining quality." Rather than view the absence of a regulatory body as a chance to cut corners, Aurolab saw it as an opportunity to create a benchmark. Its early lenses were tested in American labs by Dr. David Apple, a close friend of Harold Ridley, and one of the most renowned IOL researchers in the field.[66] In 1995, in a noted ophthalmology journal, Apple passed the following verdict: "[Aurolab lenses] clearly meet and often exceed the standards of many lenses manufactured in the United States and European countries."

Aspiring to set world-class standards, Aurolab was the first Indian company to receive an ISO certification for IOLs in India, and to be awarded the CE mark (ISO is an international certification of quality and CE approves a product's sale in Europe).[67] The implications of certification went far beyond the eligibility to export. "Other manufacturers are forced to follow you, which means they have to raise their standards," says Sriram. "So we have brought in healthy competition in India, a better price *and* better quality."

[65] Data supplied by Aurolab

[66] WHO Informal Consultation, "Guidelines for the Manufacture of Intraocular Lenses by Cooperative Organizations in Developing Countries", World Health Organization, 1994

[67] Confirmed by Mr. R.D. Sriram, Director of Operations, and Mr. Sivanand, XXX, Aurolab, 2011

At inception Aurolab blazed its own trail to meet the need for affordable ophthalmic products. Today, India is the biggest consumer of IOLs in the world and there are more than a dozen other IOL manufacturers in the country and at least four have met the quality of the CE mark.[68] In this changed environment, Aurolab is the nation's third largest player, and no longer the least expensive. Its least inexpensive IOL now costs Rs.___ but other brands can be secured for as little as $2. Steering clear of sheer price wars, Aurolab now sees its role more in terms of value leadership.

Inviting competition and improving quality while keeping prices affordable has pushed Aurolab to stay nimble. Like Aravind, it deeply believes that serving both ends of the economic spectrum is central to its progress. It used the rapid advancements in IOL technology as a spur to diversify its product line, which now contains nearly twenty different base models with over 1,000 different variations. It produces lenses that are rigid, foldable, hard, soft, three-piece, one piece, hydrophilic, and even hydrophobic (the latter requires a rare, high end production capability). In some cases it develops the production process in-house.

But even as it caters to high-end demands, Aurolab's growth centers on its founders' ethos of empathy-driven development. "When Aravind comes across new technology, it looks to bring down the price so that it can be used for the masses," explains Bala. He adds, "The key has always been to identify the most expensive part of an operation and try to lower its price." After IOLs the next most costly consumable for cataract surgery were sutures.[69] At the time the price was $240 for a box in the United States; too expensive for developing countries. Following a process parallel to its IOL set up, Aurolab, with close support from Western collaborators, began production of sutures in 1998 with technology obtained from Germany. The price for a box of Aurolab sutures was set at $30.[70]

Aurolab had clearly crossed the proof of concept stage. It wasn't long before the next development occurred. In 1996, a visitor from Moorfields Hospital in England, impressed with

[68] V. Kasturi Rangan, *Aurolab: Bringing First-World Technology to the Third-World Blind*, Harvard Business School, 2007

[69] ibid.
[70] ibid.

Aurolab's production quality, recommended that it enter the field of ophthalmic pharmaceuticals and offered to collaborate, thus setting the stage for India's first non-profit drug company. Its choice of intervention areas is telling, not only does Aurolab tackle the most expensive ophthalmic drugs to bring their cost down, but also as Sriram points out, "We make drugs that other companies don't want to make." Certain drugs with high impact, but short shelf life and narrow demand are typically ignored or eventually abandoned by big companies because of their relatively low margins (for example an antifungal drug used to treat corneal ulcers caused by tropical infections). Such 'orphan drugs' that meet a clear need yet are commercially unattractive suit Aurolab's ethos perfectly. Most of their formulations are no longer under patent protection, making production easier.

Today, Aurolab produces over 50 different ophthalmic drugs, ointments, drops, and tinctures making it a convenient one-stop shop for clients.[71] It used this wide range to create innovative packages that help address the inefficiencies of developing world supply chain infrastructure. Aurolab produced a popular cataract surgery kit that conveniently bundles together all the consumables (including lenses, sutures and pharmaceuticals) needed for up to five surgeries.

The organization has diversified even further and now also manufactures an assortment of ophthalmic equipment, ranging from sophisticated lasers to surgical instruments and diagnostic aids -- including an LCD vision chart with remote controls that measures not just visual acuity but color vision and contrast sensitivity and that has elicited considerable interest among European institutions.

There is no doubt that Aurolab's partnership with Aravind is a strong differentiator; the latter's credibility and reputation for quality carries over to Aurolab products. Its doctors provide an immediate feedback loop that is valuable for product development and occasionally initiate new design ideas. Although Aurolab's initial *raison de etre* was to serve Aravind's needs, it has long since surpassed that role and the relationship has matured in interesting ways.

Braided together by virtue of origin, a shared philosophy and overlapping governance (the Aurolab board comprises a subset of Aravind's senior leadership), the two operate as independent entities, with no cross-subsidization between them. And as far as pricing goes,

[71] ibid.

Aravind pays the same rates as Aurolab's other non-profit customers. It is also free to purchase products from rival companies (and regularly does this for certain high demand imported brands). In fact, in 2010 Aravind accounted for only 13% of Aurolab's $12 million revenue.[72] That same year Aurolab's governing board received and turned down a purchase offer from one of the world's largest medical device companies. Its unusual success has piqued considerable interest even in for-profit circles.

The wrought iron gates with the familiar flower-like symbol swing open. The sleek four-story facility, all 110,000 square feet of it, rises against a sunset sky. Aurolab is built on a beautiful property roughly four miles from its first home at Aravind. Visitors to its manufacturing areas don sterile coats, and slip covers on head and feet before entering. Walking through airy passageways they can examine some processes up close, while other hyper-sterilized zones can only be peered at through glass windows. Over 460 employees work here. Everywhere there is the steady hum of machinery. Each room is occupied by rows of young women in pale blue lab coats, their hair tucked under matching caps. There is such a range of detail-oriented activity going on: some are peering through microscopes, others programming complex machinery, cutting, cleaning, checking, packing thousands upon thousands of the sight-restoring implants that look like clear plastic buttons. They work with diligent grace. Within the chambers of Aurolab, there is the same sense of fully absorbed tranquility that pervades the operating rooms of Aravind.

Aurolab is the prodigious child that grew up to exceed everyone's expectations including its own. A non-profit hospital system creating a non-profit medical products factory is a rare innovation. It is clear to the leaders of both organizations that the richness and value of this connection transcends the transactional. Together, they have done what so many considered impossible. In Aurolab's high ceilinged lobby, an arresting black and white portrait of Dr. V is mounted on a granite plaque. His words are etched into its surface:

"Intelligence and capability is not enough.

[72] Data supplied by Aurolab

There must be the joy of doing something beautiful."

Dr. V's head is tilted to one side and he is smiling broadly, as if pleased to see how the tiny production unit that began as a maverick venture with a generous mission has made good.

CHAPTER 12: THE FLIP SIDE OF A VISIONARY

In the late 1970s, when Aravind's small clinic examined a record-breaking 100 patients in a day, Dr. V had treated the staff to ice cream. As the treats were passed around he urged everyone to aim for the day they would see a 1000 patients. Even his most experienced staff thought he was joking. Today the Aravind Eye Care System sees more than fifty times that original milestone every day. "Throughout the time that I have known Dr. V, his vision for what was possible was *way beyond* what was anything reasonable," says Fred Munson, his voice rich with amusement and awe.

No one could have foretold that out of this eleven-bed effort would come India's largest community outreach initiative for eye care, a series of eye hospitals, an internationally acclaimed training facility in ophthalmology, and a factory for advanced ophthalmic products. "I have read a little of Sri Aurobindo and of his idea that we are evolving," says Aravind research partner Dr. Jack Whitcher thoughtfully, "I think that's what's happening with Aravind. I see an evolutionary process going on. That's why people will always be able to learn as much as they give here."

"*There is no more benumbing error than to mistake a stage for the goal or to linger too long in a resting place*," wrote Sri Aurobindo. Dr. V's passion for continual improvement protected Aravind from the error of stagnation. He encouraged people to test assumptions and question their success. This approach is what led Aravind leadership to put its screening eye camps -- one of its most notable areas of achievement, under intensive scrutiny. Camps had long been considered the crowning glory of the Aravind model. But in 1999 a joint study between Aravind and the London School of Hygiene & Tropical Medicine would puncture that belief.[73]

The study sought to determine what percentage of people in Aravind's service area who were in need of eye care were actually accessing it. The answer that surfaced was a shocking less than 7%. While the absolute number of patients treated through Aravind's camps was high, their overall penetration rate, as shown by this study, was appallingly low. "Until then we had only

[73] Astrid E. Fletcher et al, "Low Uptake of Eye Services in Rural India", Arch Ophthalmology, October 1999, Vol 117

looked at how many people we were serving, not the number who needed care. We were deceived by the high numbers we were seeing [at our hospitals] into dealing with just the numerator," says Thulsi.

Though Aravind runs roughly 40 camps every week, when spread across the 600-odd towns and villages that serve as hosts, camps were reaching each community on a bi-yearly, quarterly or at most monthly basis. To improve its reach, Aravind would have to come up with an intervention to reach potential patients year-round, one that could function alongside its eye camps, eventually perhaps even replacing them.

Dr. V sits at his desk in front of a new flat screen computer. "You have to pay two rupees to look at it," he says impishly to people who walk in the door. Technology excites him with its possibilities -- this boyish octogenarian who still makes fifty-year plans. The first time someone showed him how to use Google's satellite maps he spent an entire afternoon excitedly looking up all the obscure cities and towns he had ever been to. Not an unusual fascination when you remember how much of his work has involved putting forsaken people and places on the map. His curiosity is eclectic but never frivolous; everything connects back to being a perfect instrument and helping people in need live better lives. Today, he is reading up on an Alaskan telemedicine project. "We need something like that to reach our villages," he says matter-of-factly (as if it were a three-click Amazon-purchase away).

At the turn of the millennium the magic wand of information technology began to wave in the direction of rural India. A string of experiments were launched to see how the benefits of the connectivity could be stretched out of the cities to improve the livelihoods of landless laborers, farmers and fishermen. No one was more excited about the implications of this on eye care than Dr. V – and his brother-in-law, Dr. Nam.

Under their joint leadership a string of pilot outreach projects would be set up in partnership with various high profile companies and social ventures. But it was the dark horse entrant on the scene that yielded the most spectacular success. In 2004, Sonesh Surana, a lanky PhD student from University of California, Berkeley, arrived at Aravind to explore a potential research project. He was part of a Berkeley initiative called Technology and Infrastructure for Emerging

Regions (TIER) that focused on designing solutions for the challenging realities of the developing world. Surana wanted to explore the possibility of setting up a scalable, high-bandwidth, wireless computer network link between Aravind-Theni and a small Aravind vision center in Dr. Nam's native village of Ambasamudram, 10 miles away.

The idea behind Aravind's vision centers (launched in 2004), was to provide rural and small town populations with permanent outposts for diagnosis and primary eye care. They aimed to get people to proactively seek eye care as soon as they needed it, instead of putting it off until an eye camp showed up in their area. The vision centers would use tele-consultations to eliminate unnecessary hospital visits. But at the turn of the millennium when the concept of telemedicine was floated at Aravind there was a good deal of internal debate -- it was not clear whether the technology was feasible, and even if it were, whether patients would be comfortable with remote diagnosis.

Surana's group, TIER, headed by Professor Eric Brewer (one of the influential architects and early innovators of the internet), really had no first-hand experience working in the development sector let alone rural India. Whether this novice group would be able to reconfigure expensive wi-fi technology (traditionally designed for distances of about 100 meters and reliant on a stable power supply), and make it work for long distance communication in regions of frequent power outages and poor infrastructure, was uncertain. The poverty rampant in these regions also brought into question the financial sustainability of such a venture. But Dr. V was firmly convinced that this new technology could reshape the future of eye care – there was no debating him on the subject. And so Aravind plunged resolutely ahead with the collaboration.

Over the next two years Surana and a small band of associates clambered on top of village rooftops, water tanks, factory chimneys, chicken sheds and schoolhouses in search of the perfect line of sight required for a working point-to-point wireless connection. They modified software, mixed cement, built towers and mounted directional antennas and routers. All of this would eventually result in network speeds of up to six megabits per second at distances up to 40 miles.[74] Their redesigned technology was affordable, robust, and recovered easily from electrical outages. A mere seventeen months into the partnership, their adventurous pilot had proved so

[74] Intel Corporation, *Enabling Eye Care in Rural India Research at Intel*, 2006

successful that Aravind announced plans to expand the vision center model to 50 such centers in small towns geared to serve half a million rural patients each year. Each centre would be linked to one of its five hospitals to receive long-distance high quality care.

Aravind's vision centers are set up as primary eye clinics. Nurses from Aravind who are trained in comprehensive examination, refraction testing and spectacle dispensing run these centers. There are no doctors on site. Real-time video consultations with an Aravind doctor are carried out through telemedicine links. Doctors at each Aravind hospital are responsible for up to five vision centers and have immediate online access to the patients' case sheets. The vision centers are entirely paperless, and maintain all records on a centralized database.

By 2011, Aravind was running 31 fully functioning vision centers that had been in operation for over a year. The centers collectively process over 550 telemedicine consultations every day and generate income that covers roughly 90% of their operating costs. Patients are charged a fee of Rs. 20 (less than fifty cents) that is valid for three visits – equal or less than the travel expenses they would incur for a single visit to the nearest eye hospital. The centers collectively receive roughly160,000 patient visits in a year. Most significantly, they have on average increased market penetration to about 30% of those needing eye care (for certain centers this figure is as high as 75%).[75]

Surana talks about how closely Dr. V followed the progress of these centers. "On one of my visits I went to see him right after I landed in Madurai. As soon as he saw me he said, 'I want you to look at something.' Then he pulled up information from the vision centers, pointed to one of them and said, 'Look we have only a few people coming to this one – what do you think is happening?' I hadn't even said hello yet! But he was so excited about this project and so sure we could figure this out together."

Surana was tickled by Dr. V's utter lack of small talk but also touched by his ready spirit of partnership, "It stems from people like Dr. V, Dr. Nam and a few key others, and creates this second order effect," he muses. "Because of the way they are and the way they connect with people it generates a lot of good will that comes back their way. I saw this in Theni when we

[75] Data supplied by Aravind Eye Care System

were trying to find land to erect our towers on. I had a coconut farmer come up to me and say, 'Look, I know Dr. Nam and all the good work Aravind does here, so I'm going to dig a six foot pit in my field just so you can put up your forty foot tower.' I mean who does that kind of thing?" he exclaims. "That's the power of goodwill capital at Aravind – and it's generated in a way that's not calculated."

Nobody who has worked closely with Dr. V doubts the influence of his spiritual mooring on Aravind's evolution and success. But they also know he has his share of fallibilities. His journals reveal the private corridors of a beautiful mind that could be seized by doubt, turned rigid by fear, or plunged into despair by conflict and obstacles. Behind Aravind's crown of lustrous achievement is a history riddled with gritty, prolonged, ordinary battles. There was much to overcome in the early years.

As Aravind built additional hospitals in rest of the state of Tamil Nadu, each faced numerous challenges: competition, leadership gaps, low service uptake and the need for the hospital to develop an individual identity within a shared mission. There were political tussles with the government over accreditation of Aravind's post-graduate institute, and ideological conflicts with various partner organizations on the decision to produce IOLs. Over the years Dr. V writes about these and much else. Manpower proved to be one of the most persistent issues. "6 doctors are leaving," reads one short despondent entry in 1980. Another, that is almost comical in its scope, reads: "Recent challenges: 1. Doctors 2. Nurses 3. Operating assistants 4. Hospital administrators 5.Optical technicians."

He is candid about the struggle to control his own negative tendencies and bursts of impatience with staff. "I feel something is wrong with me. I develop fixed ideas and strong prejudices," he writes, "So much tension, anger and reaction sometimes." He writes too of heated disputes between members of the family. The challenges inherent in having multiple generations of a clan working under the same roof were great, but Aravind was blessed with counterbalances that prevented irreparable rents in the fabric.

Dr. V's sister, Janaky was one of them. She and her husband Ramaswamy lived right next door to house that served as the first Aravind clinic. The two properties were connected by way of a cowshed in the back. Janaky was given to slipping across to the clinic bearing steel glasses of freshly brewed coffee for the staff. Warm, generous, tireless and sharp-tongued, Janaky Amma (who succumbed to cancer in 1998) was, in the early years, a powerful binding force and a maternal refuge for the young, overworked team of doctors. She helped raise their children along with four of her own.

There is no job description for the role she played but the founding team remembers her as a vital anchor. Janaky never went a day without seeing her eldest brother. A visit to his office room was a ritual part of her morning. When she learned of upsets between any of her siblings she always hurried over to smooth ruffled feathers and to try and mediate a truce. Her presence helped restore equilibrium quickly. It was always just a matter of time. All the siblings, the founders of Aravind, live within a few minutes of each other and there are few formalities between them. What there is, is a fierce loyalty, an undemonstrative affection that holds them together through professional differences and unavoidable spats..

The everyday lives of this family are intertwined on multiple levels and Dr. V, the white-haired bachelor of the clan deeply cherishes this closeness. He is always the first to show up at the doorstep whenever someone in the family is taken ill and loves buying small treats for the grandchildren. "Nothing compares to a joint family," he would write in his journals, "I would not have survived had I lived alone." This sense of indebtedness perhaps is part of what tears at him when altercations do arise.

The founders are all close-knit but each can be headstrong in argument. In a telling entry that records the tragicomic drama of close human relationships Dr. V writes: "T feels very bad because I wanted to make a change in his training program. R feels bad that T is feeling bad. N feels bad that her recommendation was not heeded. P feels bad that his desire was not satisfied. They are all individual opinions and ideas. Attachment is so strong that it causes lots of friction. I feel that my idea is correct so there is controversy. T feels that I don't encourage people to develop. R also feels the same. How as a leader can I help to solve the problem and lead them to a clear goal. I feel tired and weak. I want to escape and leave this scene and go somewhere else."

His despair is palpable but the charges against him were not unfounded. The flip side to Dr. V's ability to tap into a higher plane of consciousness and his sense of being guided was that he often found it hard to abandon his own point of view and did not always trust others to make independent decisions. His tremendous gifts are speckled with the ordinary faults held stereotypical of older generations. He can be narrow-minded and rigid in outlook, and his intentions to coach are sometimes overtaken by an unfortunate tendency to command. The man's contradictions are occasionally called out on by a brother, sister, nephew or niece. But outside of the family Fred Munson is the person at Aravind most often dispatched to beard the lion in his den. Speaking truth to power (and getting away with it) has been a consistent part of his role here.

In 1980 Munson was Professor of hospital administration at the University of Michigan. On a visit to the school that year Dr. V had dropped by to talk to him. Intrigued by the quality of the man's presence and his hunger to better understand hospital systems, Munson accepted an invitation to visit Madurai the following year. He and his wife Mary would fit like long-lost pieces into the intricate jigsaw puzzle of India, Aravind and Dr. V's clan. For more than thirty years since that first visit, they have both spent a month of each year volunteering at Aravind.

The Munsons are the same generation as Dr. V and his siblings, and share their natural affinity for hard work, practical thinking, and unpretentious living. He is a farm boy at heart who in his eighties still drives a tractor and chops wood for their furnace. She is a whirlwind of caring activity with a gift for making people feel special. They would both swiftly win the trust and affection of the founding team. In addition, Fred Munson's value for democracy, gift for deep listening and tact would make him a valuable confidante for Aravind's younger generations.

"This family can be pretty abysmal when it comes to communicating with each other," says Munson, disclosing one of the open secrets at Aravind. "A part of it is the culture of deference. The elders got used to that, and demanded it without realizing how it can also cut off communication." He smiles detailing the interrelated complexities of the situation, "They

complained how the next generation didn't tell them this or the other, and wasn't showing initiative. That made young people like Dr. Prajna strike a blow in favor of open conversation by being as blunt as possible."

"Fred plays the role of an Insider Outsider," Thulsi explains, "He's been here frequently enough that he knows what the real issues are but is also distanced from the actual dynamics. He has a perspective that's suited to asking all those awkward questions that can help resolve things effectively." It was Munson, for instance, who initiated the first breakthrough discussions with Srinivasan on salary hikes for the doctors, who prompted Dr. Natchiar to dial down the vitriol in her interactions with nurses and residents, and who eventually broached the delicate subject of a succession plan with Dr. V. He also regularly lent a calm ear to younger staff when they felt their authority was being undermined, often intervening on their behalf in tricky situations.

"I really was troubled on this visit by the number of people in responsible positions who felt that any significant decision would be made by you," wrote Munson to Dr. V in a lengthy letter from the mid-1990s (a letter that includes convivial details of greenhouse work, grandchildren and leaf-raking). "Right now my feeling is that you are more interested in [people] making the right decision than you are in them making their own decision."

Very few people spoke to Dr. V with this degree of frankness.

"I am extremely thankful to you," Dr. V would write back, "It is true that I have been constantly focusing on right decisions. Now I am making increased effort for human resource development, and decision making by our people in all levels will be a priority." To his (and Munson's) credit, Dr. V would genuinely work on modulating aspects of his leadership style. But there were still certain elements to his approach that he dearly wished to pass on.

In his journals Dr. V writes of a repeated, poignant aspiration: "We brothers and sisters and our families should not live in small worlds, bound up in small things. We must make wider progress." He often listed the advancements at the material level that he and his siblings had made, but followed that up with a poignant question, "I do not know how far we have grown spiritually." It is worth noting here that Dr. V never mentions a desire to have his family follow

Sri Aurobindo or the Mother. He does not try and force his special connection to these teachers on others. But, "To get things done in a big and permanent way it must be done spiritually," he insists in his journals.

In Dr. V's worldview certain conditions of mind and heart are of utmost importance in any form of work, and must be actively cultivated., When selfless intentions drive an undertaking, and when people truly attempt to understand themselves, and their work within the vast interconnectedness of the world they can wrought profound change.

He does not look for short cuts to this process and understands it to be the slow and necessary work of a lifetime – a process that does not bear direct fruit but fertilizes the soil so to speak. By practicing at the boundaries of your compassion, by following disciplines that progressively dissolve your own biases that cloud your judgment, and by consciously seeking to align with your deepest purpose you create the conditions from which truly worthy action, strategies, and innovations arise. These are Dr. V's beliefs, and they are rooted in his experience.

"All work in the outside world reflects the action of life inside," wrote Dr. V, "Work must become *sadhana* [a practice of self evolution]. It is not about buildings, equipment, money or material things but a matter of consciousness." It is his abiding aspiration to have family and broader staff at Aravind engage with their work in this spirit.

On Valentines Day in 1994, Dr. V (unwitting of the date's significance), entered a few impassioned lines from *Savitri* in his journal. Perhaps they echoed something of the beautiful dissatisfaction that raged within him:

"In me the spirit of immortal love stretches its arms out to embrace mankind.
Imperfect is the joy not shared by all."

PART IV TRAINING YOUR COMPETITION: ON REPLICATION & SELF-AWARENESS

Yaadhum oore, yaavarum kellir

"Every city a home town

Every man a kinsman"

From the '*Purananooru*'

(Verses written by over 150 Tamil poets between the first and third centuries AD)

CHAPTER 13: IF WE CAN DO IT SO CAN YOU

The story of blindness prevention in the 20th century was brought to life by an ensemble cast of passionate strangers, people who dedicated their lives to restoring sight in far-flung corners of the world inspiring hundreds to join them. Among others, there was the German missionary, Ernst Christoffel, who began treating blind children in Turkey, and the Australian eye doctor, Fred Hollows, who journeyed across Africa and Asia treating river blindness and cataract. In the United Kingdom there was Sir John Wilson who spurred entire nations to launch blindness control programs and co-founded the International Agency for the Prevention of Blindness. There was the strong-willed French-Swiss woman, Nicole Grasset along with Larry Brilliant and others of smallpox eradication fame. There was David Paton, the Texan ophthalmologist who created a Flying Eye Hospital, and in India, a retired ophthalmologist with an unpronounceable name, bent on building eye hospitals modeled on McDonalds.

All these paths would eventually intersect to create a loosely defined coalition for sight, comprising country governments, grassroots charities, medical teams, activists, public health experts, management consultants, and caring individuals. Together, they would bend the boughs of possibility. As a result of their combined efforts the elimination of curable blindness is low-hanging fruit in the 21st century. It is achingly within reach, which is what makes the following Vision 2020 statistic doubly incriminating: *Every five seconds someone in our world goes blind, and a child goes blind every minute.*"[76]

90% of the people affected live in developing countries, where blindness often cuts short earning potential, decreases life expectancy, and can destroy the individual's sense of dignity and independence.[77] The chilling facts of the situation bring us face to face with what a young research student aptly termed 'The Tragedy of Easy Problems'.[78] Millions of people still suffer from diseases for which we have working, reliable treatments *and* demonstrated models that

[76] World Sight Day, 11 October 2007, Key Message, Vision 2020. Vision2020 is a joint program between the World Health Organization and the International Agency for the Prevention of Blindness

[77] Blindness and Visual Impairment: Global Facts: http://www.vision2020.org/main.cfm?type=FACTS

[78] The Tragedy of Easy Problems: http://www.gresham.ac.uk/lectures-and-events/the-tragedy-of-easy-problems

deliver those treatments in economically viable, medically excellent and practically scalable ways. In fact in 2008 a World Bank assessment found cataract surgery to be one of the most cost-effective and justifiable public health interventions. By their calculations a patient's economic productivity in the first year after a cataract operation yields 1500% of the cost of the surgery.[79]

The continuing magnitude of the problem shaped Dr. V's approach. Early on he recognized that Aravind, . This awareness fuelled his belief that the real power of the Aravind model lay in its potential for replication across states, countries and continents.

"To get universal consciousness," writes Dr. V. "In a small way how can we make a Global effort to conquer cataract blindness." There is a glimmering oxymoron in Dr. V's approach. He treated Aravind's work as a microcosm of the solution: To make a *global* effort -- in a *small* way. In this quiet, deliberate manner that spanned decades, he lifted Aravind's relevance from the provincial to the planetary. "Last night I dreamt of expanding the work of Aravind Hospitals to other places," he wrote in an early 1980s journal entry, "Get others involved. Include people from other states and countries." His far-sighted aspirations aligned Aravind's work with a much broader effort, making it one of the strongest links in a global chain of contribution.

Persistence of vision is an ocular phenomenon; the term refers to the eye's ability to retain the impression of an image for a brief period ($1/25^{th}$ of a second) after the image itself has vanished. In the life of a visionary the term takes on a whole new dimension. People who encountered Dr. V in the early years confess to underestimating the muscular tenacity of his dreams. "I first met Dr. V in 1978," says Dr. Suzanne Gilbert. "I was at the University of Michigan, School of Medicine. Dr. V came to meet me there out of his interest in education and training, and he remarked, 'One day, I would like to have a centre like this one'. And at the back of my mind I was thinking -- now wait a minute, he has an 11-bed eye clinic in India, he's coming to the States

[79] World Health Organization, Medium-term strategic plan 2008-2013: progress report, May 2006

and walking around this 40,000 square-foot training facility saying he wants one just like this... how is he ever going to do it?'"

As she speaks, it is easy to picture a freshly retired Dr. V, restless with the weight of unfinished work in the field. An improbable visionary with crippled fingers, modest means and thickly accented English. Suzanne shrugs, smiles and continues, "In a matter of years -- in around fourteen years -- *he had done it*."

She is referring to the Lions Aravind Institute of Community Ophthalmology that opened in 1992. Today it goes by the acronym LAICO (the word means 'secular' in Spanish – rather appropriate for an institute that operates like the United Nations of blindness prevention). Situated kitty-corner from the Aravind Eye Hospital in Madurai, it is a high-domed, pillared building surrounded by a stone wall edged with vibrant bougainvillea. At the entrance is a life-size engraving of Mahatma Gandhi. He is poised mid-stride, walking stick in hand, as if about to enter. At LAICO you never really know who the next visitor will be here.

Larry Page, co-founder of Google, flew in on a chartered plane for a visit once. Business majors from Wharton and Michigan cycle through on class projects. Right now, a Tanzanian hospital's staff is debating outreach strategy in the conference room as a visiting team from China strides through the hallways. LAICO is Aravind's training and consultancy institute. It aims to replicate the Aravind model to build international capacity for eye care, and as of 2011 has trained X people from X countries. Its creation was the combined outcome of diligent preparation, skillful alliance and serendipity.

In the mid-1980s Aravind collaborated with Seva Foundation on its first replication effort. Seva aiming to tackle cataract blindness in Nepal had adopted the Lumbini Eye Institute, a small rural eye hospital near the Buddha's birthplace. "Buddha from Nepal 2000 years ago spread his compassion all over the world," wrote Dr. V in his journal. "Lumbini is a sacred place and we must endeavor to create this center to repeat what Buddha did." Aravind was strapped for resources at the time, struggling with staff retention, and sustainability issues at its recently established second hospital, but Dr. V held nothing back from the new partnership. As a result, all Lumbini's eye surgeons were sent to Aravind for training and everything at the Nepali

hospital, from the architecture of the building to the tiered fee structure, the patient workflow and the technique of running eye camps, was modeled on Aravind.[80]

The modest hospital would steadily grow to become one of the first self-sustaining, high volume, quality eye care service providers outside India. In 2010, the Lumbini hospital screened around 172,000 patients and performed more than 32,500 surgeries.[81] Though neither Seva nor Aravind knew it back then, the triumph of this attempt to extend Aravind's model was perfectly timed for the next phase of their shared evolution.

In 1990 Lions International established SightFirst -- a global initiative that pledged $215 million to the prevention of curable blindness. In the same year it approached Aravind with a specific concern: they were funding hundreds of eye hospitals across the developing world that were performing sub-optimally. "And yet, there was a constant demand from their hospitals for more money to expand existing facilities," says Thulsi, "The funding agencies were worried that this wasn't the best use of their money." In short, Lions International wanted to know if there was a way to make the hospitals they supported run more like Aravind. This was not an idle request; they were offering to back it with more than a million dollars. The opportunity was hard to pass up, not because of the money but because Dr. V's work had aspired to this kind of global confluence all along.

Lions International is the world's largest service club organization (boasting over one million members across 45,000 clubs in 202 nations). An offer from an organization with such deep-rooted local ties around the world presented Aravind with a chance to exponentially amplify its work. That fall Aravind held intensive brainstorm sessions to determine the best course forward. In attendance were all its senior leaders along with Suzanne Gilbert and Ram Dass from Seva Foundation. Ram Dass writes of this formative period, "I find myself less skeptical about the possibility, championed by Dr. Venkataswamy of Aravind… that preventable and curable blindness in the world can be turned into a non-problem. Maybe the time is right and the fair

[80] Seva Foundation in Nepal: http://www.seva.ca/sevainnepal.htm

[81] Data supplied by Lumbini Eye Institute, Nepal

winds are blowing." It turned out to be more than fair winds. It was all the ingredients for a perfect storm.

In the early 1990s bright seeds of Dr. V's vision that had germinated across the decades began to burst through the ground. It was one of the most fertile periods in the organization's history. Aravind had already scaled to hospitals in three locations across Tamil Nadu and was expanding its base in Madurai. It had launched a formal training platform for ophthalmologists, developed extensive specialty clinics and begun the groundwork for Aurolab. The Harvard case study was still around the corner but the Aravind model had already begun to assert its widespread relevance. The Lions' support to create Aravind's teaching and consultancy institute would prove an important tipping point.

Thulsi Ravilla, LAICO's Executive Director, sits in a sun-lit corner office, his bookshelves bursting with files. His door is open, a signal to staff that he is not traveling, a rarity these days. His deep expertise keeps him in high demand on the international circuit. His itinerary for autumn 2010 includes a talk at Stockholm's Karolinska University Hospital, the International Agency for the Prevention of Blindness annual conference in Geneva, a WHO Health Systems Research meeting in Montreux, Switzerland, panelist duties at a social entrepreneurship conference in Oxford, and a lead role consulting with China's He Eye Hospital in Shenyang. None of these duties would have come to be but for an early shift in Thulsi's career path.

In 1981, Thulsi an MBA graduate from one of India's finest business schools had a well-paying job with a British paint company in the metropolis of Kolkata. He had a wife and a one-year old daughter to support. When his wife's uncle talked to him pointedly and repeatedly of Aravind's need for an administrator, Thulsi assumed that he was being made an offer. A period of soul-searching ensued: His corporate salary came with club memberships, housing and other benefits. The job with Aravind promised a drastic pay cut, severe challenges and as Dr. V put it, "An opportunity to develop spiritually." In the end an inner compulsion combined with an appetite for adventure led Thulsi to write to Dr. V stating his intention to quit his job and come to Aravind. "I thought he would say at once, 'Yes, come and work here,' " says Thulsi with a grin. " But no, I had to go through the due process."

Larry Brilliant continues the story, "Dr. V rang me up in the US and he said, 'I am thinking of hiring an administrator for Aravind because I need a good manager. I have found this boy and I want you to kindly interview him.' And of course that 'boy' was his nephew by marriage, Thulsi." Brilliant subsequently roped in Sujit Gupta, an old friend and then Director of Tata Industries Ltd (one of India's largest multinational conglomerates).

Thulsi received a call from Gupta asking him to come in to the Tata offices for a formal interview. He was given no indication what the interview was for. In some bewilderment Thulsi showed up. "Sujit called me afterwards," recounts Brilliant, "He said, 'The guy works with a *paint company*. How will he ever be able to manage a hospital? He has no training!' And I said, yes, but Dr. V has a way of looking into people's hearts and knowing who they are."

Brilliant did a second round of interviewing with Thulsi and took a strong liking to the young executive. He wholeheartedly recommended him to the post. Dr. V dispatched Thulsi to the University of Michigan for a year as a visiting scholar in hospital administration where he was mentored by Fred Munson. Upon his return Thulsi was assigned commander-in-chief of systems design and implementation at Aravind.

It turned out he came as a package deal. As the eldest of four siblings Thulsi exerted a Dr. V-like influence of his own. Over the years Thulsi's *entire* family trailed after him to Aravind. Thulsi's younger brother Ravi married his wife's sister and began ophthalmology training in Madurai, along with Dr. Ramakrishnan (RK who is married to Thulsi's younger sister Saradha). Thulsi's father, R.D. Doraiswamy and youngest brother, Sriram would later join Aurolab's staff. His eldest daughter is now on the faculty at LACIO, while his younger daughter and her husband are both ophthalmologists at Aravind (as are three more of his sibling's children and their spouses). The Ravillas, as they are known within the broader family, are an irrepressible clan now spread throughout the organization, and known for their warm humor, outgoing personalities and infamous tendency to run late.

But Thulsi is known for much more than his sizeable contribution to Aravind personnel. He was one of the most crucial hires in Aravind's history and his recruitment hinged on Dr. V's prescient conviction that sound business principles and systems could dramatically redefine eye care services. Because of this conviction Thulsi was heavily involved in refining the Aravind model

early on. “Management in eye care was absolutely virgin territory then,” says Thulsi, “So whatever little I could do to design and implement systems had a lot of impact and got a lot of recognition, internally and externally.” He has, for instance, chaired several international bodies in the field that are typically led by ophthalmologists. Today, as LAICO’s Executive Director he functions as ambassador and coach. The majority of his work is outward facing and involves parsing Aravind’s vastly detailed and inter-related systems into lessons for dissemination across the globe.

“Essentially LAICO packaged what Aravind has learned over the years into broad areas,” Thulsi explains, “We figured the fundamental laws of delivering good eye care are fairly simple: You treat a lot of people, you do it with really good quality and in a sustainable manner.” It is these fundamentals and the practices accompanying them that LAICO seeks to transfer.

“Aravind’s mission is just a few words on eliminating needless blindness,” says Thulsi thoughtfully, “We didn’t say we’re going to do it just in Madurai, Tamil Nadu, or even India – we had no religious or economic barriers either. We didn’t put any boundaries around that statement.” That openness would take them all over the globe.

LAICO’s initial goal was to help 100 eye hospitals boost their sustainability and productivity to at least 5000 high quality surgeries a year. By 2011, it had worked with 273 eye care programs across 27 different countries. Its work has added approximately *one million* additional vision-restoring surgeries to the world’s total each year.[82]

“We could try to create dominance with Aravind’s level of expertise but we don’t,” says Thulsi. “Instead we try and create training programs around those competitive skills. We see training as a form of sharing.” This ethos of formally transferring knowledge and skills outside its walls is why today one in ten eye doctors across India have undergone some form of training at Aravind. Currently LAICO and with Aravind’s hospitals together offer thirty-one clinical courses for ophthalmologists and nurses, a dozen non-clinical eye care management courses, and custom-designed workshops ranging from operation theater management to architectural design for eye

[82] Data supplied by LAICO

hospitals. LAICO regularly invites guest faculty from eminent international agencies and other institutions to co-chair its sessions. The institute helps Aravind train over 350 eye care professionals outside its system each year.

"That's how Aravind's brand recognition happens," claims Thulsi, "Not just through volume growth or the bottom line, but through its spirit of sharing. Brand building is a consequence, not a goal, in this process. A lot of good things happen when you focus entirely on just what needs to be done."

Thulsi heads a team of six dedicated LAICO faculty members. Apart from teaching classes, running workshops and creating instructional materials, they also offer highly individualized consulting services to eye hospitals in India and around the world. A typical engagement consists of an initial needs assessment visit by LAICO faculty. This is followed by a multidisciplinary team from the partner hospital making a visit to Madurai and Aravind (often sponsored by an international non-profit). Six months later, the LAICO faculty member returns to conduct an on-site follow-up visit.

While in Madurai the visiting team gets to know the Aravind model firsthand, and with LAICO's help draws up concrete business plans for their specific context. These plans set new targets that almost always call for drastic increases in volume, sustainability and quality. "If we were doing ten surgeries Aravind told us we could do 100. They kept pushing us to do more and showing us scientifically and systematically how we could get there," says Dr. Deshpande from the Desai Hospital in Pune, India. He attended an intensive consulting workshop with LAICO in 2004, based on which he led a series of changes at Desai hospital that boosted surgical volume by 22% within two years.[83]

"Before coming to LAICO we never thought of economic viability," he adds, "Like a child asking for candy I would point to the resources I wanted to share with the poor and the community and wait for the money to come from funders." Says a hospital administrator from

[83] *H.V.Desai Eye Hospital*, Powerpoint presentation, Pune, 2009

the state of Andhra Pradesh, “Being at LAICO was like getting a cataract surgery in management.”

As of 2011, 78% of all the hospitals that LAICO worked with were in India, including dozens based close to Aravind’s own hospitals. “People ask us why we spend so much effort on training our competition,” says Thulsi, laughing. “By definition competition would mean a situation where the service supply is greater than the demand. Right now that may be the case, but only because the demand is a small fraction of the *need*.”

As of 2010 there were approximately 200 million people in India in need of some form of eye care. From this perspective, competition resembles rivalry over the first piece of pie heedless of the untouched remainder. “Aravind’s focus is making the need manifest itself as demand through market penetration, awareness building and outreach,” Thulsi says. “The work to be done there is enormous and when you take that into account there is no competition. In fact the more people we can get on this path with us, the better.”

“Do you remember how Senegal beat France in the 2002 World Cup?” Dr. V is seated in the LAICO conference room, chuckling and triumphant, while a puzzled group of doctors from Nigeria nod their heads slowly, smiling in spite of themselves. That victory had been pretty unforgettable. Dr. V is a closet sports fan. He follows basketball, soccer, tennis, cricket of course, and even world wrestling championships. The passion, rigor and teamwork demonstrated by athletes inspire him. He manages to convert their accomplishments into teaching points for the field of eye care. “Can you imagine, a little country in Africa beating one of the world’s most advanced nations! What does that mean?” There is a pregnant pause in the room, before Dr. V slams his hands down on the table in front of him. “It means that if they can do it in football, *you* can do it with eye care -- you can be the best in the world.”

In a whitewashed seminary building atop a green hillside of Kigali in 2008, a four-person team from Aravind leads a workshop focused on developing a nationwide plan for Rwandan eye care services. Countrywide planning is not something they have done before, a fact that does not appear to faze them. The team from India is used to encountering far bigger numbers than Rwanda’s. The scale of Aravind’s hospitals far outstrips not just current eye care activities in

Rwanda but also the magnitude of their need. "Planning for any of our hospitals is like planning for a small country," says Thulsi. "That's why our people can walk into situations like the Rwandan one and feel confident about framing a solution." The estimated backlog of people with treatable blindness in Rwanda is 65,000, compared to India's 12 million. In order to successfully tackle the problem the country must do 19,000 operations per year.[84] Compare that to the 300,000 surgeries Aravind's network of hospitals annually performs. Its smallest hospital of 163 beds in Theni performs roughly 10,700 surgeries a year.[85]

"Look, right now you're doing about 285 surgeries a year at your hospital," Thulsi tells a Rwandan doctor. "With the right systems in place, you can be doing 2,000." Inconceivable as that seems to the Rwandans, in just 48 hours, they will have started to redefine possibilities for eye care in their country. And they will have a concrete, comprehensive roadmap for how to get there. But the Aravind team will also have to examine and grapple with the differences in this environment that challenge their model. The principles of self-sustaining high volume, high quality, and affordable eye care at Aravind rely on a dedicated attention to detail. But replicating the details themselves across vastly different geographies and cultures is not always possible or even desirable. Socio-economic conditions, politics, and disease distribution each play a part. Together, Aravind's consulting team and the Rwandan doctors must account for the interplay of these factors and adjust Aravind's processes for the local context.

For instance, the Rwandan health ministry taxes non-essential medical equipment and consumables. They classify Intraocular lenses and spectacle frames in this category which is part of the reason why delivering those key elements of eye care is more costly in Rwanda than in India. In such scenarios LAICO's international muscle in policy setting can help. While in Rwanda, Thulsi secures a series of meetings with its ministry of health to discuss the implications of this tax, and to consider alternatives. Within days, the ministry requests a revised list of essential eye care items, aiming to reconsider their tax policy to save Rwandan hospitals the burden of taxation.

[84] Ministry of Health, Republic of Rwanda, "National Plan For the Fight Against Blindness", 2002

[85] Aravind Eye Care System, Annual Report, 2009-2010

Alongside such practical matters there is arguably a bigger task to be tackled: the inertia of the status quo has to be shaken off. The team from Aravind must light and help keep alive the flame of possibility. Thulsi and the other consultants are here to deliver an urgent vote of confidence: Gamble the odds. The impossible can be done. Remember how Senegal beat France. If one institution in the developing world can deliver world-class eye care on a shoestring budget with limited human resources, then, *so can you*.

It is a brave, uplifting message and one that Dr. V deeply believes in. To him Aravind is not a one-off success story but a widely replicable miracle.

A jeep takes you from the bustling city of Kolkata, with its 13 million inhabitants, to the small town of Raichok, where you catch the ferry to the village of Chaitanyapur. The drive takes an hour and a half on a long, narrow road that rambles alongside stretching green fields and ramshackle villages. Across a wide wash of gray-blue water is a factory zone. Petrochemicals and oil refineries are the major industries here and smoke stacks and concrete buildings rise above the trees. Fishermen's huts dot the shoreline. The bleak landscape is populated almost entirely by poor farmers, fishermen and low-wage factory workers. It is hard to believe that in this forsaken nook of West Bengal (one of India's north eastern states) there is a hospital delivering advanced eye surgeries along the lines of the Aravind model.

Swami Biswanathananda is a tall, wiry man dressed in a monk's orange robes. He is head of the Vivekananda Mission ashram here. Besides setting up an eye hospital, he has founded educational facilities that serve over 5000 students, a successful community blindness rehabilitation center and one of the largest Braille libraries in India. The Chaitanyapur hospital serves a population of over six million villagers. Most of the area's inhabitants use local buses as their mode of transport; patients often save bus fare either by walking several miles to the hospital or riding on the carrier seat of a bicycle. Biswanathananda's right hand man at this hospital is Dr. Asim K. Sil. Sil comes from a little village that borders Bangladesh and was introduced to the world of blindness early on, "My grandfather who lived with us lost his sight," he says, "My mother always asked me to sit in his room while I was studying or doing my homework. As a child I tended to read out loud a lot – so this was her way of making sure he

didn't feel lonely. Subconsciously I think it had a big impact on me – it made me want to help people who are blind."

After completing medical school and spending a few years in general practice, Sil applied for specialized programs in ophthalmology. He was accepted by Aravind-Madurai, and developed a special connection with the founding team, perhaps because of the simple upbringing and readiness for hard work that they all shared. One morning during his time in Madurai, Sil was informed that 'Chief' (Dr. V), was making a visit to the Aravind hospital in Theni and wanted him to come along.

"When we were driving out of Madurai, Chief said, 'Sil, look outside. Do you see more people walking or driving?' 'There are more people walking, sir'," Sil says, recalling the conversation. "How far do you think they can walk?' Dr.V asked me. 'About four or five kilometers sir, then they need to rest,' I answered.

"And the people in the cars? How long can they drive?"

"Sir, they can go much farther."

"Right. So remember, if you want to really help the world, *you should do something to help the people who are walking*."

Sil recalls the conversation with something akin to wonder. "That conversation really stayed in my mind for a long time."

Sil arrived in Chaitanyapur in 1995 after completing his ophthalmology training at Aravind. By the time he reached the ashram gates, it was late evening. There were no streetlights and the roads were slick with mud from monsoon rains. Almost before he entered the ashram Sil had made up his mind: he would not stay here, he was going back to Aravind. But after lunch the next day he chanced upon Biswanathananda's elder brother. On seeing Sil the man had opened his palm, offering him a few fragrant cloves. "While he was giving me the cloves, I looked at him" Sil recalls. "He looked so bright. He said to me, 'Doctor I think you will stay here.' And I said, 'Yes.' And right after saying that I felt so light. Like some heaviness had been taken away."

At Chaitanyapur, it didn't bother Sil that he was earning less than he could have elsewhere. "After training at Madurai, my view of money and everything else was changed!" he says. His biggest challenge was getting the ashram management to understand the principles behind good eye care delivery systems – changes were needed in workflow, community outreach, and hospital design. "I did not have to struggle long," he says smiling, "Within a few months we signed up for a workshop at LAICO." Biswanathananda and Sil, along with an administrative officer and ophthalmic assistant from Chaitanyapur, traveled to Madurai for an extended consulting session. In LAICO's experience working with multi-disciplinary teams from partnering hospitals is vital to the change process. Involving people at every level during the planning stage proved more effective than top-down enforcement. Teams that visit typically comprise the director of the hospital, chief medical officer, head nurse and, in some cases, the directors of IT and finance.

Over a period of seven days the Chaitanyapur team was exposed to the best that Aravind had to offer. They worked with top management on both clinical and administrative topics to develop action plans for their specific situation. The workshop accomplished what Sil had been struggling to do alone: convince his hospital's management and senior staff that things had to be done differently, and provide guidance on how these changes could be implemented. The effect on Sil's team was exhilarating. On the train back to West Bengal, he remembers they all stayed up long into the night, bursting with ideas from the workshop. "Swami Biswanathananda himself made so many sketches on that train ride of how to modify our wards!" he laughs.

The desired changes spanned from facility improvements to improved hiring and training of employees. While the international organization Sight Savers helped finance the hospital's remodel, most of the other changes required not just money but fundamental shifts in approach. Simply put the Chaitanyapur hospital needed more doctors, more nurses and more patients. It was able to rapidly increase its patient load by systematically launching Aravind-style eye camps that partnered with local leaders and social welfare groups. On the nursing front, when Sil began working at Chaitanyapur, the hospital had only one trained nurse: a man with a college degree who was hoping for a government job and left as soon as he got an offer. LAICO pointed to Aravind's model, and suggested that Chaitanyapur's leadership stop depending on skilled professionals from the outside and begin to cultivate its own pool of talent.

Teaching people wasn't new to Sil. In his first year at Chaitanyapur he often traveled to a neighboring town to call his fiancé, who lived out of state. His hospital had a phone but it rarely worked, and his town had only two reliable phone booths, which were almost always busy). Waiting in the queue one day he overheard a conversation between a young monk from the ashram and two gentlemen. The two were enquiring of the monk whether they could bring their 80-year old father in for surgery. The monk replied, "Why bring in your father when he is so old?" The ignorance of his answer shocked Sil into immediate action. "That night I told Swami Biswanathananda that I wanted to teach a class for all the people in the hospital." Every day after lunch Sil gathered patients, hospital staff and ashram workers for informal classes on eye health, "I used to teach them about all the common eye diseases and causes of infection," says Sil, "Our janitor even used to take notes!" In the long run the classes helped the hospital's performance. "Our staff had a better understanding of why they were doing things a certain way and could explain to the patients," Sil says. In 1996, under his leadership and with Aravind's assistance for curriculum design, the Chaitanyapur hospital began to recruit and train its own nurses.

Doctor retention was a bigger challenge. A year after moving to Chaitanyapur, Sil married his fiancé Shubbra, a pediatric ophthalmologist also trained at Aravind. She had traded in the luxuries of an urban lifestyle for the simple living of the ashram. But the Chaitanyapur hospital came nowhere close to paying competitive salaries, and doctors like the Sils, intrinsically motivated by service to the poor and willing to work in a village setting, were hard to come by. To improve its recruitment and retention of doctors, the hospital needed to strengthen its financial standing. By introducing a tiered fee system, counseling services, and steadily ramping up cataract surgeries with IOL implants, the hospital increased its paying patient pool and thus boosted its revenues. Within three years of working with LAICO, Chaitanyapur's cost recovery was over 150%.[86] This strong financial foundation would, over time, allow for specialization and better staff recruitment and retention.

[86] A.K. Sivakumar, "Counselling - A success story", LAICO White Paper, Vision2020 Resource, 1998

Deepa Krishnan is a third generation member of Dr. V's family. A computer engineer with an MBA degree, she joined the management team at LAICO and would spend a month at Chaitanyapur studying their organizational systems and recommending strategies to improve their efficiency and productivity. "One of the things she observed was that the majority of our patients come to us by 8am," Sil recalls. "She suggested that all our doctors be posted in the out-patient division in the morning and have the operations start later in the day." The suggestion was implemented to good effect. "It's a mini-Aravind there," says Deepa, "Everything is the same -- the case sheets they use, the receipts they print. It is the exact same format, with only the name of the hospital changed. Their operating room protocol, prep and sterilization are the same. The camp set up is the same too – just on a smaller scale."

Beyond this external transfer of Aravind's systems, a common sense of mission and commitment to serving those who are most in need of care is shared between the two institutes. Thulsi, who has paid frequent visits to the hospital in Chaitanyapur says he always comes back from it "feeling inspired". "Sil and his team really embody what it means to be patient-centric," he says, "Like when they realized many patients traveled to them from distant villages accompanied by relatives who didn't have a place to stay – they straight away built travellers' dorms. It's not really strategy – it's just really *seeing* and responding to the needs of the people you treat."

Swami Biswanathananda has sprained his back but is still working today because, as he says smiling, "God does not permit bed rest." He talks of Aravind with the same enthusiasm as Sil. "I had no knowledge regarding hospital-building," he says candidly. "Everyone at LAICO and Aravind was a tremendous help. It cannot be expressed in words." Swami Biswanathananda has been a monk for over thirty years and is given to effusive speeches. With every few sentences he offers "a million *pranams* [bows] to the lotus feet of the Divine." His angular person carries the stamp of an unmistakable sincerity and determination. It rings through in his closing words and echoes Dr. V's philosophy: "Humanitarian service is quite difficult if you are not able to love with your whole heart. Love is the most important factor to disseminate anything…and then God has his plans."

CHAPTER 14: ARAVIND IS LIKE KILIMANJARO

The roads that wind around the airport in Moshi, Tanzania are flanked by maize fields standing at attention, like silent guards in the moonlight. The houses have corrugated metal roofs and lights glowing in the windows. Everything seems a little tucked away, like so many well-kept secrets waiting to be discovered. This town is now home to Canadians Dr. Susan Lewellan, her husband Paul Courtright and their two young boys. She is an ophthalmologist and he has a graduate degree in public health. The couple has worked in Africa for several years, and first visited Aravind in 2002 for guidance on an ambitious project -- they were building a LAICO equivalent in the little town of Moshi.

Lewellan and Courtright are the founders and joint-directors of the Kilimanjaro Center for Community Ophthalmology (KCCO). Started in 2001 this donor-funded center is specifically dedicated to public health ophthalmology in eastern Africa. Its training programs for eye care management and delivery cover eighteen countries and a population of 210 million. KCCO is independently run but works closely with the eye department of the region's largest hospital, the Kilimanjaro Christian Medical Center (KCMC).[87]

LAICO has worked in several parts of Africa. It has trained doctors and nurses in Malawi, helped set up a major eye care facility in Cairo, and consulted for the government of Rwanda. With its support, a brand new hospital in the Democratic Republic of Congo was able to go from zero to 1000 surgeries in its first year, despite the distractions of rampant civil unrest. An Ethiopian doctor who attended a LAICO course after surgical training at Aravind now runs a gleaming facility that performs 3000 surgeries a year in his home town.[88] The numbers might be modest compared to India's massive scale, but they indicate the relevance of Aravind's basic tenets despite the less than ideal conditions in these countries. These cases of successful replication are uplifting reminders that day after day, year upon year small bands of remarkable individuals are quietly lighting the eyes of the world.

In 2006 a LAICO team flew into Moshi for a needs-assessment visit. They were engaged not only to help KCMC's eye department, but also to provide guidance to KCCO as a training

[87] Kilimanjaro Christian Medical Center: http://www.kcmc.ac.tz/eye/index.htm, http://www.seva.org/site/PageServer?pagename=News_KCCO_Africa

[88] Data supplied by LAICO

facility. Only a few months later, evidence of their impact is everywhere. Names are posted on office doors that were anonymous before. It seems like a trivial detail, but this recommendation was included in LAICO's feedback report. Their input takes nothing for granted and ranges from the granular to the macro.. Here a variety of LAICOs' suggestions have been implemented with positive results: a shift from paper files to computerized registration at the hospital, the creation of a counseling unit, a revised fee structure for the various classes of patient accommodation, wall dividers in the visual acuity testing unit, and the introduction of ward protocol. An important part of LAICO's role, whether working with a hospital in Bangladesh, Bhutan or Rwanda, is to emphasize the vital role systems and codified procedures play in a hospital's efficiency.

Edson Eliah is KCCO's Sustainability Planner. "I get all my knowledge about management from Aravind," he says with a broad smile. Transferring that knowledge to others is not always smooth sailing. "With the eye department at KCMC the biggest task was to set up a proper inventory and accounting system to monitor costs, the second was to talk with the managers about sustainability – it is a new concept for a lot of people here," says Edson, "At Aravind everyone was passionate about it. But here sometimes people think containing costs is hard and means more work." He states this without impatience as an observation not accusation – and one that applies more broadly than just this hospital. KCCO's close relationship and experience with KCMC deeply informs its work with other eye care programs in the region that operate in very similar conditions.

The eye department at KCMC examines an average of 90 patients and admits roughly 16 in-patients a day. Most of the steps for patient screening and diagnosis are executed in the same order, if not the same speed, as Aravind. The head of the nursing staff is inexorably convinced that they do not have enough nurses to manage their patient flow as quickly. Edson and LAICO are of a different opinion. With comparable staffing, Aravind's smallest hospital (in Theni), sees more than five times KCMC's patient load per day.

"The main challenge is resistance from the staff who are used to the old way," says one of the Tanzanian managers, "We point out to them that at Aravind two nurses do what five nurses do here, and urge them to try getting to that level. But people's commitment is less here. And to some extent they are less hard working." There *is* a certain leisure to the way things are done in

Moshi that is in stark contrast to the brisk efficiency of Aravind. *Poli-poli* is a gentle Swahili phrase that means "slowly, slowly" or, "everything in its time." You glimpse it in the way people walk through the hallways of the hospital, the way they stop to talk to each other or to just look around. It is an approach to life (common to much of small-town India as well) that, depending on the context, can be deeply charming or exceedingly frustrating.

There are of course exceptions to this rule – Sister Agnes is one of them. She has a swift competence about her that makes it easy to believe she could give Aravind nurses a run for their money. "Every day and everything is exciting for me. Everything, everything, *everything*," says Agnes in her singsong voice. She is a high-cheeked Masai woman and one of 22 children (her father had four wives). She worked fiercely hard to break through the cultural restrictions of her tribe and get where she is today. Agnes does not take anything for granted, least of all her job with the eye department at KCMC.

Then there is Sister Evangeline – she is in her mid fifties, not uncommon among the nurses here, but markedly different from Aravind where the average age of the nursing staff is in the early to mid-twenties. This age difference plays into some of the efficiency lag in Moshi, though Evangeline herself makes up in buoyant warmth anything she might lack in agility. She is a large and large-hearted woman who grew up in a pastor's family and always knew that she wanted to care for other people, "To be healthy is a gift, to wake up and go to work and be able to work hard and help people see is --- how do you say it- a blessing? This day too is a blessing," says Evangeline with a sunburst smile.

On a clear day Africa's highest peak can be seen from the hospital premises. It is hard to comprehend something as massive as a mountain being obscured, but today it is completely hidden by cloud-cover and its existence seems almost mythical. "Aravind is like Kilimanjaro," says Dr. Anthony Hall, "It has to be seen to be believed." Hall is tall, lean and sandy-haired with a good-natured face that often looks preoccupied. He is one of only four vitreo-retinal surgeons in East Africa, a deeply respected doctor and the Director of KCMC's eye department. "You hear people talking about Aravind's numbers all the time," he says, "but you can't quite fathom its scope till you get there."

There are differences that make Aravind's scale challenging to replicate in Africa. For one thing there is a severe lack of surgical manpower on the continent. Tanzania for instance, only has around 30 ophthalmologists for the entire country; roughly one per million of its population (India by comparison has about 12 ophthalmologists per million, the US has 58).

Eye diseases also strike differently in Africa and India. "Cataract starts later here," says Hall, "We see it here mostly in people who are in their 60s and 70s. Elderly people tend to have other health issues which make their cataracts more complicated to treat – our junior doctors can't handle them." This slows down surgical productivity. "Conversely glaucoma is more aggressive in Africa and has an earlier onset than in India," continues Hall. "So we see a lot of those cases, and because we're a referral center we also see a high proportion of patients with diabetic retinopathy." Unlike treatment for cataract both glaucoma and diabetic retinopathy require long-term follow up and relatively complex and expensive treatment.

KCMC, unlike private hospitals in India, has to work very closely with the government and the Ministry of Health plays a fairly hands on role in regulating the dos and don'ts of service delivery.. Making changes requires wading through red tape, often delaying or discouraging transformation. Aravind's multi-tiered pricing system, with its self-selecting paid and free options, has not been replicated here. The lack of community networks for eye care and the absence of government subsidies leads to low numbers of people seeking treatment. This creates a vicious circle that makes it necessary for the hospital to charge fees for all its patients. "The hospital has had trouble figuring out here what people should pay," says Paul Courtright. "The Aravind equation of ten days' wages doesn't work in a place where most people still barter their crops. We settled on the price of $15 for cataract surgery, and it seems to work okay."

KCMC waives the fees for patients who bring in letters from their village leader attesting to their poverty, but in actual practice very few do this. The hospital has a skilled counselor but fear of surgery, lack of money and superstition are strong barriers to eye care here.

Each challenging reality – poverty, bureaucracy, and superstition – depress the acceptance rate for surgery at KCMC. Of all the patients recommended a cataract operation only 60% pursue the care they need. The outreach system in this part faces a variety of challenges. For starters, "Rural

Tanzania is much more widely dispersed than rural India," says Courtright, "Go up to Kilema and you'll see how it is."

The jeep heads up the green slopes of Kilema; it passes rushing streams, tangled banana groves, pine trees, purple wildflowers, coffee plantations, and little dirt paths disappearing into tall fields of ready-to-be-harvested maize. Women with brightly colored scarves around their heads look up from their busy tasks to smile and cry out "Habari" (How are you?). They bring to mind the spirit of rural India -- a resilient, sparkling spirit that does not seem to know it leads a difficult life. Hard to access in these parts can mean simply -- no roads. The jeep turns sharply and rides up a grassy slope, eventually pulling into a small clearing. Up ahead is the rural health center, a modest cement building. A woman is plowing outside and the scent of damp earth fill the air. Two boys run past kicking an empty oilcan between them.

It is well past 9am, and no one, not even the doctor is on-site. He shows up eventually, only to find the examination lamp missing. Patients straggle in, old men in striped suits with floppy hats, women with brightly colored scarves and wide hoops in their ears. A young nurse carries out the primary visual testing on the wide verandah of the building. She uses an alphabet chart and the finger test, and has to shush the children who crowd around trying to beat the older folks to an answer. Camps here are held in coordination with village harvest dates. Harvest time means people have the money to pay for services. It is 5:30pm by the time the last patient is seen. 82 patients have been screened; five were advised surgery but only one woman accepted.

It is hard not to compare performance. A large-sized eye camp at Aravind screens 800-1000 patients between 7am and 2pm. Roughly 25% of that number are brought back to the Aravind hospital for surgery.

There are reasons aside from fear, poverty and the lower prevalence of cataract for the differences in volume. In Tanzania, as Courtright pointed out, the rural population is widely scattered and villages are sparsely populated. Transportation connecting villages to cities is poor and to each other almost non-existent. All this contrasts with the large population, high density and relatively well-established transport systems that feed patients into the Aravind model and allow each of its camps to effectively reach scores of villages. These differences dramatically

impact costs. While it typically costs around $5 to bring in a patient for surgery at Aravind, in this part of Africa the same outcome costs between $40 and $60.[89]

A scarcity of managers and administrators is also a bottleneck in Tanzania. Physicians here tend to be consumed by the medical aspects of their profession, and experienced managers to keep hospital processes and systems running smoothly are in short supply. KCCO attempts to bridge the gaps through a series of year round training programs, workshops, and course materials for the region's eye care administrators. Notably, its own staff of a dozen (barring the founders) is comprised entirely of East Africans who have been carefully groomed over the years demonstrating the commitment to fostering local talent.

Lewellan has a warm impetuosity; she is driven, anxious and disarmingly frank about not having all the answers. Courtright is less emotional, but just as warm with a wry sense of humor. He gives difficult people the benefit of the doubt – an optimistic attitude that he calls, "A protection measure against a jaded paralysis." The two are complementary forces in this work. They have dedicated their lives to improving eye care service delivery in Africa, and view their early partnership with Aravind as the crucial beginning of a long process of transformation. Despite the many challenges, their work is certainly bearing fruit.

In its first six years KCCO helped raise the number of cataract surgeries in the area by a staggering 300%.[90] They have now trained over ____ in East Africa. In 2008, Lewellan and Courtright inaugurated a spacious new training facility to accommodate the growing demand for eye care services. In the same year they were awarded the prestigious International Blindness Prevention Award from the American Academy of Ophthalmologists. The very first recipient of this award was Dr. V -- "A man whose life's work epitomizes the kind of dedication Susan and I strive for every day," says Courtright.

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[89] Susan Lewallen, R.D. Thulasiraj, "Eliminating cataract blindness: How do we apply lessons from Asia to sub-Saharan Africa?", Global Public Health, 2010

[90] http://www.seva.org/site/PageServer?pagename=News_KCCO_Africa

“Today is not the same as tomorrow and it's different from yesterday,” says one of KCMC’s matronly nurses, nodding her head sagely. She is wonderfully right. Despite the uphill battle a dedicated team is making a real difference here, every day.

LAICO-esque institutes like KCCO are now a growing tribe. By 2010 Swami Biswananathananda’s rural facility in Chaitanyapur was consulting for five hospitals spread across West Bengal and the surrounding states of India and Bangladesh. And the Lumbini Eye Institute was doing the same for a dozen different programs in Nepal, Thailand and Cambodia. These centers of excellence in community eye care steadily ripple out lessons learned from Aravind and their own experiences, across the developing world.

LAICO itself continues to work with programs of all shapes and sizes in a continuum of engagement. It typically coaches small eye care programs towards high-volume, high-quality surgery and financial viability, urges mid-sized programs towards specialty services and ophthalmic training programs, and gives larger, more established institutions a vision for replication efforts and regional capacity building.

Each of these partnerships brings to the table a distinct set of personalities, aspirations, strengths and inefficiencies. Often the consulting process involves replacing old systems with new. A peculiar pricing model at a hospital in Paraguay, for instance, involved counselors negotiating the treatment cost with each individual patient. The ad hoc bargaining system felt untrustworthy to prospective patients, and many opted not to undergo surgery. As a result, surgical volumes were low. “We sent one of our own staff there for a whole month to help them design and implement a tiered fee system,” says Sashipriya Karumanchi, a passionate faculty member at LAICO.

Sashipriya describes the presence of misaligned incentives at another partner hospital in China. “They’re struggling to create a strong training program for residents,” she explains. “At their hospital a surgeon’s salary is linked to the number of operations he does, so none of the doctors want to share their patients with residents.” This significantly limits residents’ hands-on practice, weakening the quality of their training. Changing the mindset of an organization’s leadership and replacing deeply ingrained practices with new processes is not easy. In the course of attempting

this work LAICO continually bumps up against the limits of its own understanding.

An interesting finding came to light in 2000 when LAICO conducted an efficacy study analyzing three years of data across 40 hospitals that it had worked with.[91] The study revealed that in the two years following LAICO's consulting intervention, the collective number of surgeries these hospitals performed had gone up by a stunning 75% compared to their shared total the year before the engagement with LAICO. On the surface, the statistic seemed like a tremendous indicator of success. But it masked the wild variations in performance they found among the individual hospitals. While a select few had managed to double or even triple their surgical productivity and demonstrated a considerable increase in financial stability, most had only experienced incremental improvements. Giving the Aravind model away was apparently much easier in theory than practice.

The LAICO team reviewed the data, considering the many factors that might account for the difficulties exporting Aravind's model Interestingly their findings indicated it wasn't the macro factors of environment, economy or culture that make or break a hospital's progress. The keys to improvement were surprisingly within each hospital's control. LAICO faculty was soon able to flag certain conditions as barriers to effective replication. Things like a high turnover in senior management, a staff of part-time doctors (who split their time with other institutions), volume-based salary systems, and leadership that is indifferent to performance monitoring or resistant to rigorous financial accountability, mattered more. Places where executive decisions are made by outside authorities (a structure common among some missionary hospitals, where the chief executive might also be the Bishop of a diocese and only visit the hospital a few times a year), were also found to have greater implementation challenges. But there were subtler aspects influencing the uptake of Aravind's model as well.

LAICO's faculty had built competence in transferring its formal knowledge. They could ensure its partners understood the operating room processes that maximize productivity and how to disaggregate hospital workflow into the most efficient component steps. They could hand over multiple and excruciatingly detailed manuals on how to organize an eye camp or design a patient examination room. But how would the LAICO faculty members transfer the qualities, priorities,

[91] Internal study by LAICO

and values that created and now sustain these practices and systems within Aravind? You can package and share what you do through workshops and training programs, but how do you systematize and give away what you are?

"We found that we could really only give away what we were conscious of – and that's the obvious stuff," says Thulsi, "But in reality a lot of what makes Aravind work lies at a deeper level. It's in the psyche of the organization and in that sense it's subconscious. There's a big chunk that's in the unknown." It is a confession and a realization of some significance.

Embodied in Aravind's leadership are principles, commitments, and aspirations that infuse its actions with a certain powerful energy, that many visitors have sensed. But when it comes to replicating its model through LAICO's consulting and training, this essential Aravind mojo was a black box –loosely labeled "values" or "culture." Peripherally referred to during trainings, but absent from core lessons and certainly lacking documentation in any manual. Someone was going to call out this missing piece very soon.

CHAPTER 15: BUSINESS, POLITICS & PRAHALAD'S DARE

"How do you define your spirituality?" asked C.K. Prahalad in early 2003. He was in Madurai addressing Aravind's second generation of leaders. The founding team sat at one end of the conference room with the anxious air of parents watching their children being quizzed. From the far wall a photograph of the Mother smiled down on the group, as if in amused anticipation of their answer.

The late Coimbatore Krishnarao Prahalad was an acclaimed management strategist whose work shone a spotlight on innovative business models that treat the poor not as passive beneficiaries of charity, but as customers in an economic marketplace. He deeply admired Aravind's work and in his own words "tap-danced around its success" for years. Through his writing he helped Aravind win global recognition and a reputation for serving what he famously termed, 'the Bottom of the Pyramid.' During this visit, however, he made no attempt at polite praise. He was there to prod, to instigate and maybe even inspire a deeper inquiry from Aravind's next-in-line leaders. "The founders of this place relate its success to spirituality. So what is that spirituality—and how are you going to bottle it up and export it to other countries?" he asked again. A blank silence greeted his persistent questions. Spirituality for Aravind's second generation seemed to lie outside their work as surgeons and administrators.

Most of the people Prahalad was addressing were in their early thirties; most were related to Dr. V and had entered Aravind roughly a decade ago, as post-graduate students in ophthalmology. They had stepped into the system at its takeoff point in history, bypassing the founding years of uncertainty, risk and financial struggle. Their biggest battle was the threat of anonymity. In an organization with an indelible work code, and a broad-shouldered founding team still striding through the corridors, their challenge was to emerge from the cocoon of conformity, to establish an individual identity and to make a unique contribution – all while juggling the demands of their personal lives.

Among the nephews and nieces of Dr. V at the table were Dr. Kim, the affable chief of Aravind's retina services whose incurable love of gadgets had roped him into Aravind's IT projects on various fronts, and his wife Dr. Usha the tall striking head of the oculoplastics department who also oversees the training program for Aravind's nurses. There was the

nonchalant Dr. Prajna who had recently been given charge of the residency program and who was negotiating unprecedented salary revisions with his uncle Srinivasan; next to him were Dr. Aravind restless with yet-to-be channeled ambition chafing against the confines of routine hospital work, and Aravind's wife Dr. Haripriya a young, quiet surgeon in the system focused on building her clinical and surgical skills.

Swept up in their individual preoccupations and responsibilities, this group had no ready answers to how or if spirituality impacted Aravind's work.. Prahalad swiftly transitioned their loss for words to another, more personal, topic: the weight of their legacy. "You are standing on an extraordinary platform," he thundered, "Are you just going to shuffle along complacently or are you going to take it to the next level?"

People at Aravind work very hard. The bar is set so high that it is very unusual for someone from outside the organization to demand to know if they plan to raise it. But Prahalad asked the question with an avuncular air of authority that was startlingly dismissive of LAICO's achievements. He swept aside mention of the hundreds of hospitals across dozens of countries that had thus far participated in various capacity building programs at Aravind. He was not denying their growth but to what extent? If the model was truly being replicated -- then how come there was only one institution like Aravind? With the air of the proverbial child pointing out that the Emperor has no clothes, Prahalad called out the differences in scale and scope between the Aravind Eye Care System and the array of hospitals that have attempted to transfer its success to their own regions.

Prahalad turned his attention abruptly to Dr. Usha, "Would you be willing to pack up and go live in Africa for a few years to set up a hospital there?" he asked bluntly. Dr. Usha was taken aback. In addition to her surgical work, she was a faculty member with teaching responsibilities and was also working hard to set up what would be one of India's first ocular oncology units, specializing in treating children with potentially fatal eye cancer. Hospital duties aside, she and Dr. Kim had a ten-year old son and a host of other familial responsibilities anchoring them in Madurai. The prospect of picking up and moving to Africa seems little short of ridiculous, and Dr. Usha said so, if not in so many words.

It was clear from the widespread response around the table that Aravind's new generation was not interested in more hospitals. Construction of Dr. V's dream hospital in Pondicherry was currently underway; it would be Aravind's fifth facility and was viewed as a fitting conclusion to the arc of its expansion. "We get several requests from hospitals around the country," Dr. Aravind tried explaining, "from people who want us to run their hospitals for them. With one exception our standard response has been: 'we'll teach you what we know, and then you must run it yourself.' We don't want to spread ourselves thin -- there's too much work remaining within our own service population." His words were backed by murmurs of agreement from others at the table.

Prahalad, however, remained unconvinced. He sensed latent potential beneath the day-to-day activities of the organization, which he was prodding Aravind's young leaders to discover. He was gazing through the crystal ball of his expertise in organizational strategy at Aravind's future. And what he saw made it abundantly clear to him– that the organization needed to get busy studying its DNA if it really wanted to extend its impact.

Nothing concrete came out of that particular meeting. Yet seeds sown by the professor's unanswered questions quietly took root over the next couple of years. The years that followed brought a period of soul-searching for both Aravind and LAICO that would lead to dramatic shifts in thinking and action.

On Christmas Day of 2000 a few years before Prahalad's anticlimactic visit, an unusual visitor turned up on Aravind's doorstep. Mrs. Priyamvada Birla was a frail woman in her seventies with a sweet face and grandmotherly air. She spent the day touring the hospital facilities in a wheelchair and asking a series of unexpectedly pointed questions about Aravind's expansion plans, various partnerships and financial health. She smiled, nodded and observed each detail with interest throughout her visit. Then, to everyone's surprise, she dug her heels in and vowed not to leave the premises until Aravind signed off on a partnership with her company.

The MP Birla Group is a multi-billion dollar business conglomerate and one of India's leading family-run enterprises. While its companies run the gamut from telecom and textiles to coal and cement, the Birla Group also has an active philanthropic bent. When her husband, the company

patriarch, died, factions within the family expected Mrs. Birla to break up the company. But the quiet homemaker with no prior business experience astonished everyone by taking over the reins of this megacorporation with gutsy tenacity. This same steely tenacity caught Aravind off guard.

In 1995, Mrs. Birla's accountant, a man named Rajendra Lodha, had been seated on an international flight next to Dr. Carl Kupfer, then Director of the National Eye Institute in the United States and a close friend and partner of Aravind's. Kupfer spent much of the flight educating Lodha on the wonder that was Aravind. Lodha had been so impressed by the conversation that he later discussed the model at length with Mrs. Birla, who it turned out was surprisingly interested in starting an eye hospital in West Bengal.

The Birlas' contribution to India's economic and social development was undeniable, but Aravind's leadership had long resisted forging alliances with corporate entities to build hospitals. It did not want its integrity to be compromised by other agendas. In the past, when approached by wealthy individuals or companies wanting to partner to this end, Aravind's leaders had always found a diplomatic way to say, "No thanks." But when this deceptively fragile-looking widow refused to leave until she had it in writing that there would be a Birla-Aravind eye hospital in Kolkata, no one knew quite what to do.

She seemed as stubborn as Dr. V, and her age and position commanded respect and a certain amount of deference. Dr. V himself remained strangely silent about the whole dilemma. In some consternation the rest of the founding team attempted to find a workable compromise to no avail. In the end, they signed a memorandum of understanding a little before midnight, but withheld permission for the Birla group to use Aravind's name for their project (a decision they would reverse a few years later). The joint venture was handed over to Thulsi and Dr. Aravind to plan and implement, the latter having just returned from the University of Michigan with a freshly minted MBA.

As a teenager Dr. Aravind found himself drawn to certain recurring themes in his uncle's conversations, "He talked to me a lot about franchising, about groups like the Tatas and Birlas --- soaring enterprises that had really taken on the world. He was so curious about how they worked and what he could learn from them." These excursions into the world of enterprise fascinated Dr.

V's nephew – who, like most of his cousins, would toe the family line straight into medical school. The prospect of being a surgeon did not excite him, but the idea of being able to fuse those skills with business acumen to accomplish something audacious did.

After four years as one of Aravind's fastest cataract surgeons, Dr. Aravind announced to the family that he was going to pursue an MBA degree in the United States. The founding team, including Dr. V, disapproved. "They said, 'We've been doing surgery here for forty years, what do you mean you're tired already?'" Dr. Aravind grins ruefully, "Maybe I didn't express myself right. Basically I had a lot of pent up energy and ideas that I wanted to channel differently." He held his ground and once it was clear that he really intended to pursue his passion Dr. V dropped his resistance and offered wholehearted support. After two years at the Ross School of Business in Michigan, Dr. Aravind returned to Madurai.

"Coming back I worked in a bunch of different areas – expanding our outpatient division, overseeing the outreach program, getting involved in human resource management, while also continuing to do surgeries. I started to appreciate how an overarching mission really pulls the different parts of this organization together," says Dr. Aravind.

But he was also itching for the chance to take on something more entrepreneurial. When Thulsi, sensing this, assigned him the lead role on the Birla project it was like a dream come true. "The early days were interesting. I thought, 'Oh the Birla Group!' and had all these expectations of grandeur. Then I get to Kolkata and find the space allotted for the clinic was a small apartment in a residential building," says Dr. Aravind, with a grin.

Confronted with this reality he felt an odd sense of elation. Here was an opportunity hard to come by in an established organization like Aravind -- a shot at building something big and totally new from a tiny beginning. He was hooked. "I got our small team very excited about our first day," he says laughing, "They had advertised and had got lots of enquiries -- around 500 calls. So I said, 'Just watch we are going to get so many patients. We opened with lots of expectation. Then we waited and waited. I sat there, all day long and only one patient turned up -- the whole day!"

After that unpromising beginning Dr. Aravind rapidly pumped in more support. He transferred a team of nurses from Aravind-Madurai to the Birla clinic, arranged for the additional nurses

recruited in West Bengal to be trained on-site in Madurai and split his own time between the two facilities to closely mentor the medical team in Kolkata. This form of in-depth operational involvement with an external hospital was unprecedented at Aravind – it shifted the focus of its replication efforts from consulting to implementation.

Core aspects of Aravind's model – like the tiered fee structure that included free treatment as an option, and community outreach in the form of eye camps – were retained in the Birla partnership. The details, such as staff salaries and pricing for services, were revised to take into account the local economy and public expectations. Dr. Aravind flew in Thulsi and Dr. Datta (the head of Aravind-Theni, originally from West Bengal), for a LAICO-style workshop in Kolkata to work through various bottlenecks and communicate the greater vision to the team.

Dr. Aravind's zeal in all of this comes partly from a long-standing ambition to apply his medical and managerial expertise towards building a new operation, but also from his desire to dispel what he sees to be common myths.

Aravind Eye Care System has a visionary founder at its helm and the convenience of a family of professionals spanning several generations, dedicated to its cause. Those are two hard- to-replicate conditions. But tying the success of the organization to the mystique of the former and the blood ties of the latter (as some do) is a severely limited view. "I don't think you can simplify it by saying that what Dr. V achieved was only possible because he had favorable circumstances or opportunities," he says sharply, "You mean to say that a retired individual at the age of 58 with crippling arthritis had more opportunities and more favorable circumstances than you or I have today? " Taking charge of the Birla hospital was an attempt to prove (perhaps to himself as much as anyone else) that Aravind's core model could be replicated independent of these factors – and in a metropolitan city at the opposite end of the country where Aravind's brand was unknown.

Four years into its existence the small Birla clinic was seeing seventy patients a day and performing over 3,500 surgeries a year. In 2006, X years after Dr. Aravind's first visit, the team moved from its cramped fourth-floor quarters into the Priyamvada Birla Aravind Eye Hospital, a towering five-story building in the heart of Kolkata.

From the Birla hospital experience emerged a more hands-on approach to replication, hinting at the challenge Prahalad had posed to Aravind's young leaders. Though no one was quite ready to move to Africa, the new generation was spreading its wings and investing more time and energy in outside partnerships. Until this time, for all of Dr. V's McDonald's analogies, there had never been any concrete plans at Aravind for nationwide expansion or global franchising. But in 2005, The Aravind Eye Care System announced a new goal: It aimed to expand to 100 eye hospitals under a new partnership model in order to collectively perform one million surgeries a year by 2015.[92]

In this new approach to collaboration, the partners would contribute funding, infrastructure and local ties, while Aravind, in exchange for an annual royalty, would be deeply involved in the staffing, training, and running of the new hospital. The Birla partnership slowly came to be seen as an accidental pilot towards this new goal. It had already provided some valuable lessons in replication. And another unlikely partnership was just around the corner.

When Kannamma Ravindran, a niece of Dr. V, received a phone call from a man claiming to be calling on behalf of Mr. Rahul Gandhi, she thought it was a prank caller and hung up. The second time the phone rang, the man rushed to identify himself as Kanishka Singh, close friend and associate of Rahul Gandhi. What the Kennedys are to the United States, the Gandhis are to India. Rahul Gandhi is a member of Parliament. His great grandfather, grandmother and father all served as Prime Ministers of India. His father's political assassination, his Italian mother's pivotal position in the Congress party, his sister's refusal to enter politics, and his own work to energize grass-roots political participation, place him squarely in the public eye. Now, according to Singh, Gandhi was interested in visiting to learn more about the Aravind model and to explore the possibility of replicating it in the Gandhis' constituency of Amethi, in the northern state of Uttar Pradesh.

Aravind's leadership received the news of Gandhi's interest with mixed feelings. They were as hesitant to get involved with politics, as they had been to mix with big business. But Dr. V was

[92] Aravind Eye Care System: http://www.aravind.org/hospitals/managedhospitals.asp

thrilled and made it clear that Gandhi's visit was something he fully intended to support. In the decades when Dr. V was a government physician, Prime Minister Indira Gandhi (Rahul Gandhi's grandmother) had given his pioneering rural eye camp program national impetus. Now this prospective meeting seemed to bring things full circle. A meeting was scheduled for early 2005. The entire founding team, along with Dr. Aravind, all took the train from Madurai to meet the young politician at Aravind-Pondicherry. Gandhi arrived sporting a purple tee shirt and jeans. Next to the Aravind's senior leadership team he and Singh looked like misplaced college students.

Thulsi led the discussion with a detailed presentation on the status of eye-care delivery services in Gandhi's home state, Uttar Pradesh (UP) and more specifically in his constituency, Amethi. His power point was peppered with telling statistics. UP's blindness prevalence at 1.15% was significantly higher than Tamil Nadu's. Only 57% of the cataract surgeries being done in the state were performed using IOLs (compared to 97% in Tamil Nadu) – a clear indication of the quality lag. His presentation estimated that 230,000 people in Amethi needed cataract surgery.[93]

Gandhi and the Aravind leaders debated the need and the opportunity, with particular attention on the appropriate scale for the hospital. While the magnitude of need merited a full-blown hospital with specialty departments, there were advantages to starting simple. Gandhi and Singh ignited by the possibilities posed a stream of questions regarding recruitment, retention, leadership, and sustainability. In the end, the group decided to start small with an initial focus on cataract surgery and spectacle dispensing, and build service diversity down the line. "You are in a position to make things happen," Dr. V said with unflinching optimism, looking the young politician straight in the eye. "You can do it. And we will help you in the ways we can."

The visit left a strong impression on the two visitors. Kanishka Singh would later say "We came expecting a superficial meet and greet situation at Aravind, but there was really no BS involved!" Though the meeting's momentum carried into swift action, the partnership would have its share

[93] Aravind Eye Care System data, 2005

of hiccups. Initial problems with staff discipline escalated into a mass exodus of nurses just a few months into the hospital's opening. In retrospect, it was an accident waiting to happen.

Dr. Usha from Aravind-Madurai had flown in to Amethi, to assist with recruiting the new hospital's nursing staff. A pre-selected pool of candidates was waiting for her. Most of them were English-speaking, college graduates from urban areas – in sharp contrast to the young women Aravind typically recruits right after high school from small towns and villages. Armed with higher qualifications these women would naturally require higher starting salaries. More worrisome than that was the fact that during their training period in Madurai many of the new recruits resisted the strict protocols (set in accordance with south Indian norms), on punctuality, discipline and dress code that govern all nurses within the Aravind system. But the real trouble started when layers of hierarchy began to creep into the values of service and compassion so fundamental to Aravind's approach to patient care.

In India the power dynamics of caste still asserts itself throughout society, insidiously influencing relationships despite major reductions in overt discrimination. Most of the nurses hired to work at the Amethi hospital came from high-caste families. They rebelled against helping poor and presumably low caste patients put on the sterilized socks worn for surgery. Many felt it was beneath their dignity to perform a task that involved touching a patient's feet. (In India this gesture imbued with cultural meaning, is a sign of respect).

The work of Aravind's paraprofessional staff includes many small interactions that are rooted in a sense of equality and caring for patients from all backgrounds. The organization relies heavily on them to render its colossal scale kind and human. They are a fundamental part of the model. The hospital in Amethi would need to find nurses better suited to deliver compassionate, high-touch care. A second round of interviews was held, this time with more attention to each candidate's fit with the hospital's values.

With a new cohort of nurses on board, Aravind's team of trainers also relaxed certain staff rules to accommodate cultural differences and bring the new staff up to speed. Over time Amethi's staff settled into a good rhythm and the hospital began to swiftly gain momentum. Less than a year into the partnership the senior leadership at Aravind would receive a letter of gratitude from the head doctor at Amethi. "Our hospital's honesty and integrity has won many a heart," he

wrote, “We are attracting patients not only from the adjoining districts but also from relatively far off cities.” And as for the nurses? “They have matured into a hardworking and dedicated team who are willing to learn. The immense support and advice from everyone at Aravind has been our greatest strength.”

Things were going swimmingly in Amethi, but meanwhile on the Kolkata front, Mrs. Birla had passed away and stunned her clan by leaving her entire fortune to her accountant Mr. Lodha -- who was now embroiled in a raging billion-dollar lawsuit. It was the messy brand of controversy Aravind’s founders had always tried to steer clear. The senior management of the Kolkota hospital was also in flux, and small differences of opinion were creating hairline fissures in the partnership. These weaknesses were brushed aside, given the pressures at the time. With a 100-hospital vision driving their expansion the leadership at Aravind decided it was best to press forward.

Aravind’s new approach to growth, via more involved partnerships, grew slowly in the first decade of the millennium. After the facilities in Kolkata and Amethi, its next partnerships were in Lucknow, UP (also with Rahul Gandhi) and in Amreli, Gujarat (in partnership with a pharmaceutical company.) But as 2009 drew to a close, it seemed the synergy of the various relationships had either reached a plateau, or entered a period of decline.

Thulsi, Dr. Aravind, and others in Aravind’s senior leadership weighed the value of these partnerships to its mission and considered the implications of stepping back from the current mode of involvement. They concluded that the period of pronounced mutual benefit was confined to the initial two to three years of each new venture. Once staff had been recruited and trained, systems implemented, and all the major bottlenecks ironed out, involvement from Aravind’s end became either increasingly redundant or out of sync with the local team’s approach. Past a certain stage Aravind’s guidelines and requirements could also be interpreted as uncomfortably restrictive.

Different views on public relations strategy also created a degree of tension. Aravind maintained a low profile approach to marketing, relying on word of mouth to build trust and attract new patients over time. As Thulsi points out, they had traditionally steered clear of glossy advertising

campaigns and "getting sucked into an energy that aims at creating an effect," an approach that seemed naïve to some of its high profile partners.

From Aravind's vantage point the new partnerships brought capital funding and local expertise to the table. But funding was not an area of pressing need, as Aravind's own financial returns were strong enough for it to start a new hospital each year if desired. And though local expertise was appreciated, in southern India, Aravind's brand was strong enough that it could be leveraged to generate community support far beyond the boundaries of its current locations.

Aravind leadership's greater priority was maintaining their core values of patient centric care, universal access and a focus on reaching the unreached. Over time these things proved hard to control in new hospitals, where the local management often had competing concerns and priorities of their own. Given the realities Aravind leadership made a quiet decision to step down from its ambitious goal of establishing 100 hospitals in partnership mode. As an early advocate and impassioned architect of many of the partnerships, the decision came as a blow to Dr. Aravind.

"Initially it was painful," he says. "But in retrospect, the whole process gave me very real execution experience – I got to test the model out in different places and with very different kinds of partners. Even if it didn't work out as long-term collaborations, at the end of the day through this work we basically helped create hospitals that now add 50,000 sight-restoring surgeries to India's total each year. That's a pretty amazing feeling."

"One thing I've learned is that we can't get complacent just because we have helped a lot of hospitals," he continues. "Sure we helped them at one point but if we want to keep helping then you have to stay ahead of the learning curve by doing new things, experimenting and improving. We have to stay hungry for change." He grows steadily more animated as he speaks. "We need to treat what Dr. V and his generation did as just a foundation and not the end result."

There is something stirring within Dr. Aravind and others of his generation at Aravind. The upcoming leadership is growing less inclined to remain in maintenance mode with the model. At the steady prompting of Dr. Aravind and the other 30-something year-olds that comprise Aravind's second generation of leaders, the organization found a new goal for eliminating needless blindness. Not long after calling off its 100 hospitals goal in 2010, the Aravind Eye

Care System found itself surprisingly open to doing what it had refused to consider seven years prior when Prahalad had interrogated them about expansion: it was ready to look at building more hospitals of its own.

While the organization slowly ramped down several of its existing partnerships, LAICO, under Thulsi's leadership, continued consulting for hospitals outside Aravind's network. When the values were particularly well aligned, Aravind's team would still get involved in an engaged, hands-on manner. One such engagement is with a hospital network initiated by Muhuammad Yunus, the Nobel laureate and founder of Grameen Bank. Not all LAICO's relationships are with such august partners. Every so often complete rookies come to the attention of its faculty.

In 2005, Carlos Orellana from El Salvador and Javier Okuysen from Mexico were working together in Madrid. The two production engineers turned investment bankers had chanced upon CK Prahalad's book, *The Fortune at the Bottom of the Pyramid*. The section on Aravind excited them. "Why not start something like this in Latin America?" They thought in unison. 25 years old at the time they were whizzing along on high-powered career tracks. It was hard to hit the brakes – so they ended up going their separate ways.

Five years later Javier, who was working at a private equity firm in London, got a call from Carlos, who was finishing a MBA and a master's in Public Health at University of California, Berkeley. "The Aravind idea we had," he said, "It's time to move on it. I want to start an eye care center in Mexico City this summer. Are you in?" Javier considered the question. He had an incredible job, but no wife or kids to think about – and, he had just seen the film *The Social Network* about the origins of Facebook that weekend. He figured that with big ideas catching the tide was everything, "This was a train I wasn't going to miss," he says. "I'm in," he told Carlos. Within a couple of months they had flown into Madurai determined to learn everything they could about starting an eye hospital. (At the time Javier had never even heard the word phacoemulsification

Javier and Carlos enrolled in a LAICO workshop on eye care management. They took furious notes during the day and worked late each night. At the end of the workshop, "We both had big bags under our eyes," says Javier, "and the beginnings of a business plan." Over the next two

weeks they would test their ideas on Aravind's leadership in a series of meetings. Thulsi and other staff at LAICO staff found themselves unexpectedly moved by the "sheer sincerity of these kids," as one faculty member put it. The smart, suave Latin American duo had real heart behind their ambition and they were chasing their dream with everything they had, both putting their life savings on the line. While still in Madurai they even recruited an outreach coordinator – Javier's mother – who flew to Aravind to undergo the requisite training. "Aravind is about family," says Javier with a grin, "It was the obvious thing to do."

"I tell people Aravind is the most impressive organization I've ever come across," says Carlos. "And I've seen my fair share of good companies. What they do comes together in a really unique way. Their spirit, personality and work ethic and their willingness to share what they have -- it's amazing. And it becomes pretty apparent that these qualities drive what they do."

He is right. And LAICO knows the impact that these qualities have, even as it struggles to fully articulate and package them. Principle holds sway over process in this model, and as it transfers practices and protocols LAICO faculty attempt to underline the value of values. The consultants and instructors do this tentatively knowing they risk sounding preachy. In the classroom they find it more effective to demonstrate for instance how zero can be a legitimate price point than to lecture on the importance of compassion and human dignity.

And as for replicating the role of spirituality in the model –"We don't really try going there anymore," says Thulsi openly, "We did experiment with talking about the aspect of being an instrument of service etc…but we weren't really effective. So we take a more rational tack." For the most part, LAICO takes responsibility for sharing the pragmatic and leaves the profound to happen more subliminally.

As it turns out Aravind's transfer of knowledge does not happen only through formal partnerships and consulting. Its spiral of influence is not perfectly traceable, but the far-reaching effects of its inspiration cannot be ignored.

Geoff Tabin has an unusual resume. He helped invent bungee jumping, has scaled the seven highest peaks in the world and also happens to be a distinguished ophthalmologist. This

charismatic American eye doctor cites Aravind's work as a key starting point for many organizations including a program he works with in the mountains of Nepal.

In the early 1990s, Tabin and Dr. Sanduk Ruit, a young Nepali doctor who had spent time at Aravind, pioneered a similar high volume, high quality (and in this case, high-altitude) approach to tackling needless blindness. Their doctors often perform cataract surgeries in villages that have no running water or electricity and are only reachable by foot. In their outreach model, schools or village halls are converted into temporary operating theaters. Ruit and Tabin have perfected their surgical processes such that cataract surgery performed in these makeshift centers, yields results comparable to the West. Their work now covers most inhabited regions of the Himalayan range.[94]

The duo also followed Aravind's example to go beyond direct provision of eye care, setting up a training center for all levels of ophthalmic personnel, a skill transfer programs in Sub-Saharan Africa and, with early input from Aurolab, even built a Nepali factory for the manufacture of affordable IOLs.

Tabin and Ruit's Himalayan Cataract Program is unique unto itself, but it drew from the key principles of the Aravind model and Dr. V's inspiration. As he put it in an MIT Press Journal article to Tabin Aravind represents a trendsetter that birthed a "new paradigm". They could not have made a better choice." To Tabin, as to hundreds of others, Dr. V was a benevolent godfather figure "a spiritual guru for all who now work in international eye care." [95]

"The approach that I take to development I learnt from all my colleagues at Aravind," says social entrepreneur David Green, "From Dr. V I learnt that animating your intention with your will to do something good is what it's all about." Through Seva Foundation, Green had played a key role in the creation of Aurolab, and its success seeded his conviction that similar models could be developed for other health care technologies.

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[94] Himalayan Cataract Project: http://www.cureblindness.org/what/hcp-eye-care-model/

[95] Geoffery Tabin, The Cataract Blindness Challenge: Innovations Case Discussion: Aravind Eye Care System, *MIT Press Journal*, *Innovations*, "Sharing the Health", Fall 2007, Vol. 2, No. 4

In 2000, Green founded the Affordable Hearing Aid Project [AHAP] in order to produce low-cost, high quality hearing aids, and replicate for the hearing impaired what Aurolab's intraocular lenses had done for the temporarily blind. At the time the average price of a hearing aid in the United States was $12,000. The developing world had cheaper options but they were of inferior quality resulting in low usage. With AHAP Green sought to change that. He raised start-up funding, hired a lead developer and within a few years his team had adapted current production technologies to create a high quality digitally programmable hearing aid priced at $45[96]. Initial manufacturing of the devices, was done under contract by Aurolab.

Affordable technology was one piece of the solution; the other vital piece was driving demand through efficient distribution systems. Aurolab's intraocular lenses had the huge advantage of an existing high volume customer in the Aravind hospitals, and it could leverage demand generation through the well-established massive outreach program. Without the benefit of such a powerful partnership, the onus of building awareness, brand recognition and creating a customer base fell squarely on AHAP.

This was made more difficult by the stigma attached to wearing hearing devices and the fact that social marketing for hearing aids straggles far behind that of blindness prevention. Complexities in manufacturing, fitting, differences in perceived impact, and the necessity of regular follow-up created further challenges.

Today AHAP uses the same multi-tiered pricing strategy that Aravind uses. Its products have received both the CE mark and FDA approval allowing for distribution in Europe as well as the United States. Outreach has been facilitated through tie-ups with other non-profits in the disability field. A decade since it started, however, AHAP has only distributed 11,000 hearing aids. The program operates on external funding and has not achieved financial sustainability.[97]

The experience with the hearing aids has played an important role, however, in attempting to take the Aravind model from eye care to other spheres. Green himself has become a strong

[96] To Be Filled In

[97] To Be Filled In

advocate in social entrepreneurship circles for adapting pricing and production strategies to include the underserved.

Increasingly Aravind's lessons are rippling beyond the world of ophthalmology.[98] More and more people are approaching Aravind eager to learn if and how aspects of its model can be replicated in other spheres of healthcare. Aravind's high volume, high quality, affordable care fundamentals translate best to health interventions that share the following characteristics with cataract surgery: they require a short and simple one-time procedure, are relatively inexpensive, involve easily standardized processes and yield results that are consistent and high-impact. On these counts, certain dental procedures, cosmetic surgeries (like harelip operations), and male circumcision all closely resemble cataract surgery. The last one seems a bizarre comparison, but led to a unique experiment in applying Aravind's model to the field of AIDS prevention.

In 2010 the World Health Organization published a field paper on models for optimizing the volume and efficiency of male circumcision services, prominently attributing certain principles of efficiency to Aravind.[99] Though it is still too early to draw any conclusions about this example of trans-specialty adoption of the model, it shows the relevance of Aravind's practices across diverse fields in medicine.

Since its start in 1976, all efforts to replicate Aravind's ingredients were focused on the developing world. But in its fourth decade, Aravind has begun to encounter growing interest from one of the most wealthy and powerful countries on the planet.

[98] MIT Press Journal, Innovations, "The Power of Positive Doing", Special Edition for the 2008 Annual Meeting of the World Economic Forum, 2008

[99] World Health Organization, "Considerations for implementing models for optimizing the volume and efficiency of male circumcision services", February 2010

CHAPTER 16: ARAVIND IN AMERICA

At the 2010 Healthcare Innovations conference conducted by the Institute of Medicine in the United States, Dr. Kim Ramasamy was asked to present the Aravind model. His talk was followed by an animated panel discussion on how the model could be transferred to the West. The panel included senior executives from both the National Health Service (NHS) in the United Kingdom as well as the United States Department of Health and Human Services. The last slide in Dr. Kim's presentation included the telling graph that shows Aravind performing 60% of the NHS's ophthalmic surgical volume while spending less than 1% of the 1.6 billion pounds expended annually by the latter for eye care delivery.[100] As the audience erupted into thunderous applause, Dr. Kim, Chief Medical Officer of Aravind-Madurai, returned to his seat and shot an apologetic smile at the NHS executive sitting next to him. The man leaned over with a grin and whispered, "Hey, it's a good thing you didn't compare your numbers against the US -- that computer screen would have blown out!"

Several major studies have drawn attention to the United States' massive healthcare and its disproportionate quality outcomes. In 2009 the country as a whole spent 17% of its GDP (a whopping $2.5 trillion) on health care. The US spends more than twice per capita than any other country in the world, and yet performs badly on many major indicators of health.[101] It is also the only wealthy, industrialized nation in the world that does not offer universal coverage.[102]

With health care costs in the U.S. rapidly outpacing means, some experts in the field are optimistic that the growing crisis will accelerate much needed reform. "Every cloud has its silver lining," says Dr. Regina Herzlinger, Harvard professor of Health Economics and one of America's leading advocates for market-driven, consumer-centric health care. "The gross costs we're bearing will force a restructuring of our system along the lines of Aravind," she says. "We absolutely need specialized hospitals that are both highly productive and *very* introspective about

[100] *Aravind—Restoring Sight to Millions*, Powerpoint presentation, TED-India, December 2009
[101] Physicians for a National Health Program: http://www.pnhp.org/facts/single-payer-resources
[102] US Health Statistics: http://www.healthpaconline.net/health-care-statistics-in-the-united-states.htm

how they deliver care so they continuously improve quality. It would be great if they also adopted the charitable aspect of Aravind --- but I'm not holding my breath for that day."

When asked if there are relevant applications of the Aravind model in the United States, well-known cataract surgeon Dr. David Chang, sighs ever so slightly, "There are," he says. "But the health care system here is so different. While everybody has a priority for safety, we [in the US] practice defensive medicine with lots of additional steps, tests, and paperwork because of medico-legal liability." Chang cites the example of US health codes that require many supplies and surgical devices to be discarded after a single use. "But Aravind has shown that with proper sterilization certain resources can be reused with no compromise in safety and a substantial slash in costs," says Chang. To him the beauty of the Aravind model resides in the fact that, "at Aravind there's no red tape, no bureaucracy. Everything that is done is done for a reason and it's *got* to be cost effective and efficient -- or more people go blind."

In response to this situation, a team is gearing up for the first serious exploration of what it would mean to bring Aravind to the West.

Dr. Susan Day is a former president of the American Academy of Ophthalmology (the first woman to hold that title), and chair of the Accreditation Council for Graduate Medical Education, the body that governs medical residents across all disciplines in America. In 2009, when she first began to dream of setting up an Aravind-style institute in the US, she found an impressive ally in the President of the International Council of Ophthalmology, Dr. Bruce Spivey. Spivey does not mince words, "I've heard perfectly rational people say, 'Aravind can't work here,' and I've always thought, that's just stupid," he says firmly. "Will it work *exactly* the same as in India? Of course not. You can't plop a system into a totally new culture and environment without modifications. But the basic premise is so clear, I believe it should work anywhere." On the same page was David Green who also had experience working with LAICO to transfer the model to other countries.

But even with Spivey, Day, and Green, three powerhouses in the field of U.S. eye care and social entrepreneurship, backing the idea, importing ideas and practices from Aravind would not be a simple process. The implications of tax code, legal requirements and health care regulations in the United States would have to be carefully studied. It was unclear to them whether duplicating

any of Aravind's high-efficiency techniques, and more fundamentally, its combination of for-profit and non-profit structures was even legal.

Enter David Roe, a lawyer with more than three decades of experience in public interest strategy. Roe was brought on board to conduct a feasibility study for the venture that was soon dubbed the San Francisco Eye (SFE) project. His role would involve careful research and testing of all the immediate grounds of objection. Going into it, Roe figured the project had about a 15% chance of surviving the feasibility study. He was in for a real surprise.

"The research showed it was possible," says Roe, "There was no law we could find that said it couldn't happen." Certain particulars of the Aravind model of course, were a no-go, given US regulations. For instance, one could not have multiple patients undergoing surgery simultaneously within the same operating room, because US codes mandate only one patient per operating theater at a time. But on paper there were no immediate barriers to doing what SFE's early business plan had defined as its goal: *"To create a permanent source of free medical and surgical care for the uninsured, by top specialists, that supports itself financially without ongoing support from government or charities."*[103]

Rather than run a hospital, the team's research favored establishing an ambulatory surgical center (ASC) – a type of specialty care facility less regulated than a hospital and significantly less expensive to set up and maintain. Not as encumbered by bureaucracy as a hospital, an ASC could potentially increase throughput more easily, offer a tiered pricing system, and be financially self-sustaining like Aravind. "We calculated we could break even at a pretty low volume while serving twenty percent of the cases absolutely for free," Roe says. Their plan for staffing is to sign on eye surgeons with high-volume private practices (that they would presumably divert to SFE) who are also part of the teaching faculty at the California Pacific Medical Center where Susan Day heads the ophthalmology department. Participating doctors will be able to invest directly in each ASC. "This is a private practice model – and in that sense differs completely

[103] Pacific Vision Foundation, "SFE LLC an eye care institute in San Francisco: delivering full medical/surgical eye care to both paying and non-paying patients as a self-supporting business", September 2009

from Aravind," says Roe. "But essentially the plan is to take the extra profit out of the pockets of the doctors and put it in the service of free care."

In early 2011 the group acquired real estate for the project in downtown San Francisco, but it remains to be seen how long it will take to raise the $60 million in initial capital required to drive the project forward. For now, Roe summarizes the ambitious initiative in simple terms. "What this project offers is a conscientious effort to bring not the model entirely but the Aravind *notion* to one part of American medicine."

Roe had been deeply moved by his visit to Madurai. "At Aravind I learned it's an attitude, more than just the techniques or the business model," he says pensively, "It's a spirit that needs to pervade everything that we do — a sense that we're all doing this together and will each do whatever needs to be done. I've become convinced that the kind of attitude that you see at Aravind is everything. That really has to be our secret strategy. Do it, model it, and let it pervade. The rewards are in-built."

Today replication of the Aravind model occurs in ways that range from close duplication of processes and systems to the more abstract, but just as powerful, transplanting of concepts and values. It is intriguing to consider the mystery that underlies all of it: how one surgeon was able to draw inspiration from a most unlikely source in the West and, with his team, create a powerful, often informal, network that delivers products far more essential than hamburgers.

"Dr V is a saint," says Fred Munson matter-of-factly, "That's two or three levels above any issues of models or anything else. So it doesn't matter what he's doing, his spirituality will infuse that. This is something very, very important and very different. You can't see the model at work without recognizing that it works best, you might even say it only works, if people who care deeply about improving the human condition are the ones who are implementing it. In that sense spirituality is a part of the model and is part of the foundation on which Aravind's contribution has been built." Principles such as these are not easy to systematically replicate. But this facet of Aravind's work does ripple out, often independent of the business elements of the model, the realm of eye care and the boundaries of the developing world. It surfaces quietly, unplanned and

sans conscious effort, and occasionally yields radical results. Dr. William Stewart can vouch its impact.

"I first went to Aravind in 1983 as the self-assured surgeon to 'help' the developing country," says Dr. Bill Stewart candidly, "and then my mind just got rearranged when I saw the number of patients being treated and the quality of services that was being provided." Stewart was invited to Aravind to build on their plastic reconstructive ophthalmic work. Over the next 27 years Stewart would see that department and the organization undergo exponential transformations. He pauses reflectively, "You know, the impact of my contributions in the US is nowhere near as great as in India," he says, " I wouldn't have anticipated that."

Another twist Stewart had not expected was a change in the direction of his own career. He received a letter in the early 1990s from Dr. V that included a few startling lines. "I see your work evolving from a one-to-one practice to being more about consciousness and larger groups of people" it said. Stewart remembers highlighting those words in his mind. They were part of what would give him the courage to step away from his traditional surgery practice and dedicate his attention to a new calling. "Dr. V and Aravind changed my perspective. It was at Aravind that I saw that health and healing are not just scientific, but also spiritual pursuits," says Stewart.

In 1994 he co-founded California Pacific Medical Center's Institute for Health and Healing (IHH) seeking to ground these insights in his western medical experience. "Initially I was called 'Dr. Om,'" chuckles Stewart. In his book *Deep Medicine,* he writes of the Institute's close to seventeen years of work. "IHH is recognized as a national leader in evidence-based integrative medicine, combining knowledge bases, skill sets, and practices from other cultures and other times with contemporary medicine."[104] Through its various services it now touches the lives of over 50,000 people each year.[105]

Hundreds of others would be affected in ways that were less dramatic but just as powerful. Tech-whiz Mike Myers first heard of Aravind in 1980 while working for a company that handled

[104] Stewart, William. Deep Medicine: harness the source of your healing power. Oakland: New Harbinger Publications, 2009
[105] Institute for Health and Healing: http://www.cpmc.org/services/ihh/about/

computer conferencing solutions for business run by Seva founder, Larry Brilliant. Little did Myers realize that when Larry approached him to help set up Aravind's computer conference system, he would be embarking on a journey that would be life changing. Now in his early seventies, Myers for the past several years has spent roughly half the year volunteering with Aravind in multiple capacities.

"I don't know if my views of Dr. V match those of others," says Myers, " All I know is how I felt during and after each time we met. Dr. V seemed to me to be a person who wanted to share his dream with others, and leave it to them to find a way to make it happen. He didn't pass on a blueprint as someone in the USA would have – instead, he passed on an idea. Between this dream and the capabilities of the people he surrounded himself with, vaporware became reality, and these dreams became functioning parts of everyone's reality; even those who didn't share in the dream, but who simply became involved in the emerging reality."

It is a beautiful reflection and one that inadvertently summons up the different shades of practical magic Dr. V's vision and the work of his team wrought on the world. "If you want to build a ship, don't drum up people to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea," wrote the pilot-writer Antoine de Saint-Exupery.[106] Dr. V's approach was to do all of the above.

[106] Antoine de Saint Exupéry (1900–1944)

PART V HOW DO YOU RETIRE A SAINT?: ON CHANGE & INTEGRITY

How is one to live a moral and compassionate existence when one finds darkness not only in one's culture but within oneself? There are simply no answers to some of the great pressing questions. You continue to live them out, making your life a worthy expression of leaning into the light.

– Barry Lopez

CHAPTER 17: SAME SAME BUT DIFFERENT

Dr. V is known to pace the corridors of Madurai hospital, gauging the crowd and monitoring the workflow. When he turned 80 he started using a walking stick to aid him on these excursions. But now and then he still tires and has to stop abruptly, putting an arm out to the wall for support. On one such occasion a concerned nurse rushed up to enquire if something was wrong. "Not at all," Dr. V shot back. "I am just holding up the hospital," he said with a chuckle, his joke bearing more truth than intended.

Without Dr. V, Aravind simply would not exist. "He is its core and driving force," says Fred Munson, "He is the one who turned Aravind from a little made-over nursing home into the largest eye care system in the world." Yet Dr. V knew that a charismatic leader at the center of a visionary organization could quickly become aliability.

In the mid 20th century one of India's most well known ophthalmologists had established a flourishing eye hospital that was orbited by a network of 31 satellite clinics in northern India. Dr. V had held him and his institution in high regard, often speaking of their work as something to emulate. But when the founder passed away his son took over, and within the space of a single generation most of the clinics had either shut down or fallen into severe disrepair. Soon, there was little trace of the progressive organization that had led the country in the community eye care movement. It was a storyline Dr. V saw repeatedly and warned his team of. He did not want Aravind to join a procession of ill-fated organizations that thrived as long as the influential founder was around, and then quietly folded after that leader was gone. Dr. V issued these warnings while holding fast to Aravind's reins, decades before handing over leadership responsibilities to a new set of leaders.

"Every organization has to be able to arrange for succession," says Fred Munson, "But…how do you retire a saint?" Planning for the transition would not be easy. Dr. V's role went beyond any simple job description and his team could not imagine how vision and commitment, much less his responsibilities, would transfer to another individual. There was a luminous mystery to Dr. V's methods that the others acknowledged and knew they could not replicate. Layered on top of this were the patriarchal norms of Indian culture. Dr. V was the revered elder brother whose vision and compassion had molded

each founding member. And yet as Aravind entered its third decade it was clear to the leadership that for the organization to survive in the long run, executive decision-making authority had to be passed on. Others would need a direct share in shaping Aravind's vision. They would need experience in growing the organization in accordance with their own best judgment, and not through wisdom mandated or borrowed from their already legendary founder.

In early 1997, Munson facilitated a series of sensitive discussions with Aravind's founding members to determine the next in line for the role of leader. Munson had entered the process thinking Dr. Natchiar, with her luminous reputation in surgery and management of human resources, would be the likely choice. But Srinivasan pulled Munson aside to share the perspective of the founding team. Munson recalls that Srinivasan, "Quickly set me straight about how things worked in this culture. You couldn't pass over a husband and give the post to the wife. It would be unheard of." Despite the fact that 85% of Aravind's workforce is female and many women hold positions of seniority, when it comes to the highest-ranking posts within the organization there is a tacit bias (rooted in cultural normsr) that favors men. The trust's nomination ultimately pointed to Dr. Namperumalsamy (Nam) as Dr. V's successor. His wife Dr. Natchiar would be accorded Joint-Director status.

Though his nomination was influenced by gender bias, Nam'strack record merited the promotion. He had founded the nation's premier Low Vision aid clinic and was one of India's earliest retina specialists. He trained at Harvard Medical School under Dr. Charles Schepens (the man recognized as "the father of modern retina surgery"). Nam's own prowess as a surgeon and teacher had earned him numerous awards, and he had personally trained over a hundred residents in his specialty.

After the decision, Dr. V took some time to issue the public announcement effecting the change. Aravind was his life's work; he had suffered, sacrificed, endured, toiled, and dreamt for it through improbable decades. He had always been the keeper of its flame. Stepping away from the helm was perhaps one of the most difficult things he would ever do. He had defined this organization. But the reverse was also true. It was hard for Dr. V to conceive of 'life after Aravind'.

In X of 200X, a week after formally announcing his retirement from Aravind, Dr. V traveled to Pondicherry for a month-long retreat at the Sri Aurobindo Ashram.

An entry from Dr. V's journal:

May 18 1997
10:30 AM Pondy [Pondicherry]

I am alone in the room. If I want I can read. There is no work waiting for me. No meetings to attend, no letters to reply to, no people to meet. No watching the Medical Records at 7:30 am, no statistics of the day's operations.

I watch the sea, the horizon, the clouds the waves, the beggars, people known and unknown moving about. It was full moon yesterday. After 7 pm I could see some lights on the horizon from boats passing.

No TV to distract me no local politics or relatives' problems. No magazines, daily papers, emails or faxes from Seva, no reports about Ram Dass. No decisions to make, no shouting at the telephone operator. No wastepaper to pick up.
How will it be if I am dead and gone away from this scene.

I should gradually condition myself to a different routine. To concentrate on the sadhana of Integral yoga and reading of Savitri.

Then almost exactly a month later came this entry:

June 17
An idea came to me to have an eye hospital at Pondy. Goal: Divine Life on Earth.

Apparently you could take Dr. V out of Aravind, but there was no taking Aravind out of Dr. V. With Dr. Nam handling operational leadership as Director, the governing board had assigned Dr. V the title of Chairman. Upon his return to Madurai, Dr. V kept his office, remained a part of the senior leadership team, continued to come in to the hospital before 7am each morning and still examined patients. But his primary focus would shift to mentoring the new leadership, drawing in new partnerships, and pushing for a new hospital in Pondicherry. His stream of ideas and aspirations for the organization remained

unchecked, with the healthy difference that now others were responsible for generating them too.

Dr. Nam cuts a distinguished figure, the combined effect of his six-foot frame, high forehead, leonine features and steel-rimmed spectacles. Like Dr. V, Nam too is the eldest son of his parents, and the first doctor out of his village. As a student he was hardworking, responsible and displayed strong ties to his rural home; qualities that did not go unnoticed by his first professor of ophthalmology. Nam and Natchiar were classmates in medical school when their dean and chair of the eye department, Dr. V, singled Nam out as a suitable match for his youngest sister.

Dr. V had mailed photographs of the two to the ashram in Pondicherry asking the Mother for her verdict (the first and only time a marriage in the family would be decided this way). Nam laughs remembering the long wait – it was several months before a response in the affirmative with her blessings finally came.

His close family association with Dr. V, the endurance test of Aravind's founding years, and the responsibilities he had gained over time, groomed Nam well the new role. As director Nam brought passion and urgency to areas that had long taken a backseat. "We have to change what we are doing now to match the times," he declared repeatedly, "it's the only way to stay true to our vision and mission."

There is a perpetual revved-up air about Nam. His feet tap the floor and his fingers thrum his desk when he talks. He was 58 years old when he took on directorship of Aravind – the same age Dr. V had been when he founded it. Nam's energy spurred the organization towards the intersection of information technology, medical research and eye care service delivery.

Nam was a staunch champion of the vision centers and played a guiding role in connecting the unreached across rural Tamil Nadu with Aravind's services. He also founded Aravind's Virtual Academy in partnership with the Indian Space Research Organization (India's equivalent of NASA), which provided satellite technology to

connect surgeons across Aravind's multiple hospitals to exchange knowledge for diagnosis, discuss unusual cases, and assess and monitor quality. Nam's vision is to evolve the Virtual Academy into a global resource center for online ophthalmic education and hospital consulting.

Early in his directorship Nam decided to make DR services a priority for Aravind. India is home to approximately 41 million (and growing) diabetics. Roughly 20% of them will be affected by diabetic retinopathy (DR) -- a potentially blinding condition and the third leading cause of blindness in India. Nam's efforts to create a scalable model for the early identification and sustainable treatment of the condition would result in the establishment of an entire center for DR service delivery research, funded by Lions International and later by the World Diabetic Foundation. The program cultivated a dense network of partnerships with diabetologists and general practitioners who were trained to identify the early symptoms of DR and refer patients to Aravind for treatment. It also built on Aravind's experience working in communities and launched a series of DR screening camps and awareness campaigns that targeted people across the whole economic spectrum. By the time external funding expired the project had proved its worth. Its findings and systems were documented to enable a swift transfer to other eye care programs around the world. LAICO is working with the University of Peking, helping them set up a similar center for DR research and service delivery in China.

But Nam's defining contribution to Aravind's vision was his dogged conviction that the organization had both the potential and the responsibility to develop a cutting edge global research center for eye care. Medical research is an exorbitant undertaking with potentially huge gains for patient care in the long run but little direct short term benefit. For many years Aravind's limited resources and focus on meeting immediate needs for eye care made advanced research a luxury it could ill-afford. But by the time Nam took over, conditions were different.

"For years big agencies and institutes had been coming to us to use our patient pool for their research," says Nam, "We collaborated but not as equal partners -- we were just handing over our data. But as we evolved there was really no excuse for us not to be

initiating some of these advanced clinical studies instead of responding to requests from others. We would need to do this to remain at the leading edge of eye care."

Nam would haul Aravind's research potential into the limelight and pave the road to a multi-million dollar global research institute. Today that institute's chrome and glass fronted building stands next door to LAICO and across the street from the Aravind hospital in Madurai. It boasts state of the art research laboratories and is closely affiliated with half a dozen international organizations, including the National Eye Institute in the United States and the United Kingdom's International Center for Eye Health. The institute is a recognized center for postgraduate research in genetics, immunology and ophthalmology. Its prime focus area is investigating the genetic factors responsible for major eye diseases, and engineering against gene mutations with the goal of arresting or possibly even correcting vision loss. Aravind's research building – from which you can actually see the ancient towers of Meenakshi temple -- houses advanced projects in proteomics and stem cell research. Meanwhile Nam himself is looking ahead to bringing in the sweeping possibilities of nanotechnology and genetic counseling for eye diseases.

The advancements on the research front rippled into a steady surge in Aravind's publications. In 2009, its doctors published close to 100 papers in peer review journals, the highest number from any single eye care institute in the country.

"Research helps grow our reputation in a different professional realm," says Nam's son Dr. Prajna, "Otherwise we would easily get written off as a good community eye care provider. Now we're really in demand. All the big eye care equipment companies want to test and perfect their machines here – sometimes even years before they enter markets in the West. Collaborating with them helps us stay ahead of the curve. It's a powerful indirect contribution to our mission of delivering the best to our patients."

Under Nam, Aravind passed its first succession test. As they say in India, the two leaders were 'Same same but different.' Nam pushed the organization to innovate and respond to the needs of the community in radically different ways than Dr. V had, but there remained between the two an unbroken thread of common values and purpose. When asked about Aravind's potential for medical tourism, for instance, the corners of Nam's

lips turn down, “I’m not for it,” he says frankly. “Paying patients are important but we need to balance our priorities. We want to be a hospital for everyone, but we don’t want to start chasing the super wealthy. If we start directing a lot time and resources trying to cater to small numbers of extremely rich patients from abroad then we lose our focus on the people badly in need. The energy of the work starts to change and get diluted. We don’t want that to happen – ever. ”

CHAPTER 18: ALL WILL PASS FROM THE EARTH

"Dr. V used to say to us, 'Give me your son, I will mold him,'" says ophthalmologist Dick Litwin chuckling, "It's not a very western view point, to imply you have the power, duty and authority to mold someone's son -- but he certainly molded *us*!" (Litwin's son did eventually spend a period of time in Madurai, as did the children of many other Aravind partners and well-wishers from the West). Mentoring and coaching people was part of Dr. V's repertoire.

In laying out a succession plan Dr. V worked far ahead of the curve, not stopping with his own or the second generation but extending his attention to the third. "I must spend more time developing the children mentally and physically," he states firmly in an early 1990s journal entry. He put these intentions to immediate action by starting a children's forum for the third generation of the family. He dubbed it the New Age Group and as an induction token he gifted each child (there were roughly a dozen in all then), a brand new notebook.

The New Age Group convened at 8am every Sunday over a period of five years. All the children, with their parents in tow, would congregate at one of the family homes. Before a potluck breakfast was served each child made a short presentation in front of what was, in essence, the entire senior leadership team of Aravind. Dr. V assigned the topics for these meetings, and they ranged from presentations on polar bears, planets, world religions and freedom fighters, to poetry recitations, quizzes and dramatized performances of India's old epics. Since participants ranged in age from two to seventeen, nursery rhymes were often a part of the agenda.

The meetings of the New Age Group were light-hearted, laughter-filled events that charmed many Aravind visitors who were invited to sit in over the years. The spirit of the gathering somehow exemplified the inclusiveness and deep solidarity of this family. It was a living room tradition where the personal dimension of their lives braided together connecting three generations in a meaningful context. Systems thinker that he was, Dr. V created the New Age Group as a mechanism through which roughly forty people came together week after week to applaud each other's children, share a meal and create memories of caring that would long outlast his lifetime.

In the late nineteen eighties and nineties Dr. V had several strong premonitions of death. "A feeling that all men come like a maize crop and all will pass from the earth in the course of time and new people will come," he writes in a journal entry. "Death is around the corner. How to prepare for death." These entries often read as self-interrogations, "What was the purpose of life and what did *I* do to achieve it."

Another entry: "Soul eternal. With birth and death as different doors."

It is spring of 2006. A room on the second floor of Aravind-Madurai has been occupied for over a month, and here, lying in a hospital bed and fighting for each breath, is Dr. V.

At 88 he is thin and extremely weak with a serious infection of the lungs. Dr. Natchiar is ten pillars of strength rolled into one. She fights a grim battle every single day to keep him alive and is steeled by a love born of gratitude others can only begin to fathom. Dr. V has been brother and father, teacher and friend to her. He has been her strength just as now, she is his. He often asks for her and she is always only a few steps away. Even on days of acute pain it is not uncommon for him to turn to her suddenly and ask, "How many patients today?"

His nephew Dr. Prajna flies to Singapore to receive a prestigious award on Dr. V's behalf. Before leaving he says to a cousin, "I think Uncle is pulling on physically, but it's getting harder for him mentally," then adds, "But I may have to eat my words on that. We thought that a few months ago. Then he got better and marched into LAICO and addressed a gathering of a couple hundred people!"

Srinivasan visits the room often to give his brother updates on various land possibilities for building future hospitals. "Very good, very good," says Dr. V. A well-worn phrase that has grown familiar to the family, it is his sweet response to much that is placed in front of him: the annual increase in patient numbers, a nephew or niece's upcoming conference schedule, details of a screening camp, each child's presentation during the New Age Group Meetings, news of winning prestigious awards or a staff member's

marriage. He is not a man given to elaborate praise, so this short phrase stands in for a stamp of approval. He manages to pack both reassurance and caring into it.

Two calendars with pictures of Sri Aurobindo and the Mother have been pinned to the curtain in his room. The Mother's palms are folded in a gesture of blessing. Sri Aurobindo's picture is sterner, more aloof. *One soul's ambition lifted up the race* reads the quote underneath his photograph. During the day Dr. Natchiar, his nieces and grandnieces read out loud to him writings from the teachers he loves so dearly. He often asks to hear one of his favorite passages from *Savitri,* the closing lines of which seem to wash over the room and his being with a special force each time.

He made great dreams a mould for coming things
And cast his deeds like bronze to front the years.
His walk through Time outstripped the human stride.
Lonely his days and splendid like the sun's.

There is a television in the room, and one evening Dr. V smiles faintly watching a steely-eyed Maria Sharapova slam a tennis ball with expert grace across the court. "Do you see that woman?" he says turning to a grandniece sitting by his side, "You too must be strong like that."

Over the next few months visitors come trickling in to see him, some from great distances. They have all been touched and, in some way, transformed by him. His family feels the quiet drama of all the dispersed elements of his life drawing together: boyhood friends from his village, colleagues, students, staff, patients, community leaders, and international partners came to Aravind to pay their respects. They keep coming -- long past the time he is able to receive them with his full attention and far beyond the stage when he is capable of conversation.

He is transferred for a brief while to a specialty hospital. But on the afternoon of July 7th, 2006 the attending staff tells Dr. Natchiar quietly that there is nothing more they can do for him. The time for final farewell has arrived. A calm surrender fills the incongruous brightness of the day.

Back at Aravind, Dr. Natchiar sits in the room Dr. V will be brought back to with her head bowed and her hands clasped like a little girl's. She is crying very softly. The nurses around her have quietly taken charge. They are freshening up the room, sweeping and mopping the floor and clearing space for the crowd that will come. Incense is lit and spirals of fragrant smoke rise and disappear into the air. A hospital van pulls in through the front gates, and one last time Dr. V enters Aravind.

Slowly, wordlessly, the room fills with people. Almost all his nieces and nephews are present. Dr. Usha still in her surgeon's blue cap and gown, Dr. Kim and his sisters, Vara, Chitra and Kannamma, Dr. Prajna, Dr. Haripriya with her eight-month-old son Arya Venkat (named after Dr. V), Dr. Aravind and his sister, Dr. Kalpana from Coimbatore. Their mother Lalitha (Srinivasan's wife) is there too, her eyes filled with tears. She silently took care of Dr. V for all the years he lived in their home. At the foot of the bed are Dr. V's grandnieces, at the head are Dr. Natchiar, with Dr. Nam and Srinivasan close by. "I know you can hear me, brother," she says, her voice breaking, "We are all here, and we will work hard to keep your vision strong."

There are nearly forty people in the room and all of them seem to be breathing as one collective being -- bound tightly in life before the imminence of death. Dr. V's breathing is labored. It grows intense as if he is about to say something. Instead, the room fills with the heightened presence of departure. There is a hush, a moment cradled in stillness, before Dr. Nam reaches over and in quiet grief, gently closes for the last time those deep-visioned eyes.

Outside in the busy corridors nothing comes to a standstill. Patients rich and poor, old and young continue to stream through this system of care. A hospital cannot afford to be paralyzed by grief. But the news of Dr. V's passing will run swiftly through the nervous system of the organization. It will reach surgeons looking up between operations, receptionists printing admission cards, nurses administering drops and retying bandages, it will reach the gray-haired security man at the gate and the medical teams unloading equipment after a camp, it will reach LAICO's classrooms full of international trainees,

and the factory floor of Aurolab. It will leap from one hospital in Madurai to all the others, and from one heart to another to the next it will soon reach across the globe.

The messages come pouring in from friends, partners and even strangers. A young doctor from the United States writes, “He will always be that example of how to approach medicine, how to be human. And this is how I feel without ever interacting with him.” Writes another, “It is amazing to think that, all across the world, Dr. V is once again causing people to marvel at how great a life can be.” Before the cremation there will be phone calls from the President of India offering brotherly condolence to the founding team, there will be house visits from vegetable sellers, university professors, CEOs and rickshaw drivers coming to pay last respects. There will be prayer vigils held through the night by Aravind’s nurses.

“I wrote about that day in my diary,” says Sundari, a senior nurse at Aravind, “How our hearts were so heavy when we first heard the news. But we couldn’t stop to cry -- we knew his work had to continue.”

CHAPTER 19: THE BOTTOM IS MOVING UP

Indifferent to the initial tug of globalization, Madurai has long been more of a vibrant, overgrown village than slick, modern day metropolis. But a decade into the 21st century progress has whetted a new ambition in this ancient city and brought a novel prosperity within reach. It is on the cusp of change and the evidence is everywhere. Hay-stacked bullock carts halt at traffic lights with digital displays and first-time escalator riders wander barefoot through the city's brand new mall. Dominos delivers where hawkers still carry vegetable baskets on their heads, and outside coffee bars that serve up frothy cappuccinos, coconut water vendors split their hard, green fruit with scythes.

After decades of a closed economy and slow growth, India underwent dramatic economic reforms in 1991. Twenty years on a heady sense of possibility and progress has swept across the nation. Fueled by an unprecedented growth rate drastic upgrades to national infrastructure are underway. Across the country new highways are being laid,, hundreds of colleges being built, and plans for widespread health insurance and a social security net for the rural poor are beginning to emerge. The revolution is not limited to the rich: close on 25 million low-income individuals previously excluded from bank services and exploited by money-lenders now have access to credit through the micro-finance sector. Work typically left to charities and non-profits is being targeted by market-based solutions addressing various aspects of poverty. Organizations with social missions seeking to build hybrid business models that 'do well while doing good' are on the rise. Meanwhile Aravind too is changing faster than it ever has before.

It is the summer of 2010 and a Monday, the day hospital visits typically surge. The temperature outside is just over 100 degrees and Aravind's registration area is packed with patients. A long line winds around the new coffee vending machine. No matter how scorching the heat, Tamilians will seek out this steaming beverage. On the narrow porch outside, patients spill over, waiting their turn. Steel lunch containers are opened, a child plays with marbles on the floor, a couple of women pull the loose end of their saris over their heads, stretch out and promptly fall asleep. The scene brims with casual, unhurried Indian charm.

The hospital's Administrator, Dr. Aravind is not beguiled by any of it. "This large scale model just isn't sustainable," he says, "The way we work now, our high volume is becoming a bit of a drawback. A lot of people don't want to deal with the heat and the wait and the crowd. We're turning into a hospital for the masses."

His words and the raw force behind them are startling. High volume has always been a pivotal aspect of the Aravind model. Without it so much of the rest of the model, including financial viability, falls apart. A hospital for the masses is what Aravind was intended to be from the very beginning. That is what Dr. V designed it to be – not a plush boutique store for eye care.

Dr. Aravind presses on, "We're going to start building hospitals in mid-sized towns and are also looking at opening one in Chennai, on a small scale but with upgraded facilities." Chennai is the capital of Tamil Nadu, home to several well-known eye hospitals. For those familiar with Aravind's focus on the unreached it is not the most intuitive choice for an expansion location. "We can set up there as a paying facility without the free hospital concept," he says. "Then maybe do eye camps as the charity side of things."

Maybe? This new vision sounds dangerously like a violation of founding principles and a dramatic shift in focus away from the poor. Aravind's model evolved directly out of a priority for serving the underserved. That spirit of service is not an add-on feature to the model; it is at the front and center of Dr. V's work. But Dr. Aravind knows all this better than anyone else. Dr. V was like a second father to him.. "For years we've talked about increasing our out-patient numbers. Now for the first time we need to talk about decreasing those numbers in individual facilities, but increasing them overall through the creation of more hospitals. We're ready for that kind of growth now and we need to be able to upgrade our services," Dr. Aravind is on a tear. He knows that there are risks to standing still. "If we don't change our approach in this environment we'll very quickly cease to be relevant. We won't die – we're too big for that – we'll end up kind of toddling along." he interrupts himself here with a quick, rueful smile, "But maybe I'm just in this mode today because of the crowd outside."

When asked how the economic changes in the country have impacted the organization, his response comes without hesitation, “Look, the macroeconomics of the situation has changed quite significantly in the last 5-6 years. 90% of our patients used to opt for treatment at the lowest end of the scale, now it’s 60% who make that choice. We’re seeing mobility among the poor that we haven’t seen before. A dollar-a-day isn’t the standard any more. A housemaid earns much more than that. Brand consciousness is picking up. More people have cars, go to the cinema, “need” air conditioning…are we responding to these changes in society? The financial incapacity of the majority is what made our free and subsidized care relevant. Now the government is bringing in health insurance schemes. Once insurance for the poor kicks in an individual’s poverty won’t have the same bearing. In that case do we need to be charitable to insurance companies? We need to keep our ear to the ground -- it hasn’t shifted in thirty years, but it’s shifting now. Yes, we still want to cover the bottom of the pyramid, but the bottom of the pyramid is moving up.”

There is something in Dr. Aravind’s words that hooks the imagination, a sense of positive upheaval rich with the promise of a better life for the marginalized. His conversation calls to mind the words of another doctor posted in the hospital’s free section. “We need to install some new plug points in the waiting area,” Dr. Ravichandran had said, “Our patients keep unplugging our equipment to recharge their cell phones.” Patients at Aravind’s free section are typically poor villagers. The fact that a sizeable number within this group now have cell phones delivers a holographic statement on the broader shifts in India’s economy.

“ Maybe we will try following the airlines model,” says Dr. Prajna, “ We’ll split services into Aravind Business Class and Aravind Economy Class.” He and his cousin Dr. Aravind are in the same page. “We can’t just sit around telling stories of how hard the older generation worked – we have to keep moving ahead.” In the voices of these men you hear an energetic generation revving its engines, ready at long last to play catch up with the developed world. The center stage at Aravind is clearing for them. Dr. Nam has already announced his decision to step down from directorship of Aravind this year. Dr.

Natchiar and others from the founding generation are discussing delegation of their roles as well.

A new structure of governance is in formation, and doctors Prajna and Aravind are very much a part of it. Their confidence is on the rise and they are ready to re-examine earlier modes of operating, and will perhaps even re-think certain aspects of the model. With their contemporaries they will shape the future of the organization that Dr. V and his founding team created. “The older generation is a bit unnerved by the pace of growth,” says Dr. Prajna, “But we’re really ready to take on the world.”

Meanwhile, his father Dr. Nam has stationed himself in the waiting area of the hospital and is looking through the patient suggestion book. Each handwritten entry is carefully read through, and where appropriate he writes in comments and follow-up items for the human resource department. At the end of this week he will head to an eye camp in Salem and spend a day in the blistering heat helping the team screen over 1000 patients. The founding team still regularly participates in Aravind’s community work. As they prepare to step back from day-to-day leadership activities, they are especially keen to set strong precedents for their successors.

“The younger generation has been groomed,” says Nam, “ There won’t be any problems. The basic principles and philosophy of the institute should be maintained. Our goal should never be focused on how much money we can make. Our goal must *always* remain on serving.” Nam’s words belie the undercurrent of nervousness that both generations feel at the imminence of this turning point. For the organization, it is the first inter-generational transition at the highest level of leadership.

Though it does not project itself as a family-run organization, the leading role that Dr. V’s kin play within the organization is impossible to ignore. The numbers alone are extraordinary. Today, over thirty-five members across three generations of his family work within the Aravind Eye Care System. Several are employed in non-medical areas within LAICO and Aurolab, while a few of his nieces put in full-time hours as volunteers heading divisions such as publishing, hospitality and catering. More than twenty family

members are practicing ophthalmologists or in training, with an additional four, as of 2011, currently in medical school.

A potent blend of custom, trust, caring and respect molded members of the Aravind family. Children of the founding team grew up in caring but strict households. Sleeping in on weekends was unheard of, going to the movies frowned upon and vacations were often spent "volunteering" at the patient registration desk in the hospital or at eye camps. It was taken for granted that these children (and their children in turn), would one day join Aravind. That none of them would really rebel against that expectation was extraordinary.

Dr. V would often, while introducing them to visitors, attach designations to their names, "This is Sathya – our future pediatric chief," he announced at a time when the aforementioned Sathya, was all of seven-years old. Today she is a medical officer at Aravind Madurai and seriously considering specializing in pediatric ophthalmology.

That so many of the people who married into this family are also doctors is not pure coincidence. The odds were considerably aided by the custom of arranged marriages. Dr. V and his siblings had a knack for finding eligible young doctors who could join the fold. This trend in their matchmaking did meet with some initial resistance. Dr.V's nephews, the young doctors Kim, Aravind and Prajna each in turn pre-emptively announced an unwillingness to marry doctor-brides. They knew firsthand what it was like to be a child of two surgeons at Aravind, and did not wish that on their future offspring. A running joke in the family is that they even offered to pool their money and pay for more ophthalmologists at the hospital to avoid betrothal to women in white coats. But when presented with the family's selection (oblivious to their preferences, she was invariably a doctor) they each backpedaled on their stance. Today all of them are happily married to partners who are not just ophthalmologists but department chiefs at Aravind.

Visitors are often struck by the commitment all of them demonstrate towards the organization. Dr. Pulin Shah, a resident from Cal-Pacific Medical Center visited Aravind for surgical training in 2005. He roomed at the guesthouse just a few doors down the road

from where Dr. V lives with his brother and nephew's family. The tenor of their daily lives made a deep impression on him.

"Dr. Aravind and Dr. Haripriya, they have two small kids, and when I start to think about what their daily activities are like…They work six days a week!" says Shah, "It's a Saturday and they're operating. They start very early and then they'll teach and then they'll do rounds and go on camps." He falls silent for a moment searching for the right words. "Part of my purpose in coming to Aravind was to try and experience that atmosphere of service to the community, and to get that – that *flame* inside of me. It was very tangible there," he says quietly.

The second generation is certainly called to work hard. Family members quickly learnt that being a part of the clan meant that you were twice as likely to get called on in class, and that your work would be scrutinized with an especially critical eye. Mediocrity was not an option. "Laying into people when they made a small mistake was a cultural certainty in this family," says Munson with a chuckle. "They were a terror," laughs Dr. Kalpana (Srinivasan's daughter) referring to the older generation, then adds, "They have worked much, much harder than we have. I know they never got Sundays off to relax. Their mindset was so different. We could never do what they did." Nor do they necessarily wish to.

For the founding team work-life balance was a foreign concept. Their children by circumstance and choice are now doing things differently. The established financial success of the model has allowed for pay scales that put Aravind's next leadership in the upper income bracket of society. Their lives hold none of the harsh privations or tradeoffs of the founding years. They are a sharp, tech-savvy generation that has embraced the privileges of modernity, with two cars to a family, homes fitted with modern amenities, and vacations abroad penciled into their calendars. They are less daunting as leaders, more available as parents and worldlier in their lifestyles than Aravind's founders ever were.

"I work smart and don't really believe in working hard. I have never had a role model in the family who does *not* work hard – that is the problem," says Dr. Prajna with a twinkle.

He is clear that working at Aravind is only one part of his life. “I don’t get emotionally involved. This has helped me identify my priorities. You can view it as an indifferent attitude, but it’s not. Actually it’s very healthy for the long-term sustainability of the institution. At the end of the day I do not feel that I have sacrificed my life at the hospital. You don’t need to.”

Prajna’s words border on blasphemy for some members of the family. But while Aravind was certainly not built on this kind of attitude, his determined push for balance in the system plays an important role in the organization today. The exacting demands that Dr. V placed on the founding team are inspiring anecdote but set an anachronistic standard. As the organization has scaled the single-minded fervor required of the founders has had to be redefined for a mélange of professionals with diverse ambitions. “Look, Dr V’s sage like presence is gone and now we have to talk about practical things,” says Prajna bluntly, “There’s a fine line between a culture of hard work and one that feels like exploitation.”

As one of the most determined advocates within Aravind for fixed working hours, shorter shift options for doctor-parents, sponsored department dinners, pay raises and mandatory vacations, Prajna’s championing of young doctors has helped create work conditions that encourage people to stay on at Aravind. “My job is to make this a more likeable organization for the people who work here,” he says. He and several of his cousins have implemented several initiatives over the last five years that have significantly decreased if not arrested the threat of high turnover among Aravind’s doctors.

According to Fred Munson, retention is a problem that is never going to entirely go away at Aravind. “The better you train them the more they can make outside,” he declares, “The larger scale you do it at the more visible you become to other organizations.” Munson also points to the elephant in the room: the family versus non-family dynamic at Aravind. Today non-family members head the majority of Aravind’s specialty departments. But the organization’s governing trust and executive leadership are almost exclusively comprised of Dr. V’s kin.

Non-family staff has divergent perspectives on how this balance of power plays out. "It alienates some doctors," says Aravind's outspoken retinal surgeon, Dr. Shukla, "It can create a bit of an 'us and them' mentality. To be frank, I initially felt it too. Now I'm doing exactly what I want to do but I know some non-family members don't end up staying because they feel there's some sort of glass ceiling." Others like Dr. Krishnadas dismiss the idea of nepotism. He points out that in the span of his career he has been promoted over Dr. V's family members into the positions of Chief of glaucoma services, Chief Medical Officer and Director of Human Resources (his current title). In partial agreement with him is Dr. George Thomas, Aravind-Madurai's current Glaucoma head.

"Being non-family doesn't really affect your career growth," says Thomas, "In surgery the systems are so strong there's no question of preferential treatment creeping in." Then he adds," But I've been here thirteen years and know from experience that outside my core job, it's difficult to get some things done being non-family. For instance if I need the medical records unit to transfer a file, or the audiovisual department to edit a surgical video it takes time to get their attention. But, if I cc a family member on the request then it gets done the very next day."

This invisible layer of discrimination within the organization that some find unacceptable Thomas shrugs off, "I have to say, I've been treated really well by this family," he says, "Recently I was hospitalized with acute fever and everyone from Dr. Natchiar right down to Kim and Prajna and the others came trooping in to see me. When it comes down to it, the care they show is pretty unbelievable." Their attendance at Weddings, funerals, scholarships for children, thousands of unannounced acts of kindness, loans for homes, bailing people out of debt, visiting the brereaved etc.

Thomas's wife is also an ophthalmologist at Aravind, who coincidentally, has just returned to work this morning after an extended maternity leave, "She was a bit nervous coming in because she wanted to ask Prajna for a short shift option and wasn't sure what he would say. He basically told her, 'You're an asset to the institution and we don't want to lose you – we'll work something out.' That kind of flexibility and openness makes a huge difference."

Today, as both the Indian economy and the candidate pool undergo rapid changes, cell phones, cable television and call centers are beginning to affect Aravind's paramedical program. Tell-tale tremors in the shape of decreased application numbers, increased competition from the retail sector and funnily enough, a mini-outbreak of elopements (the rare exception before the cell phone era), have prompted Aravind to revisit its current hiring and training practices.

The second generation values the latitude to make their own mistakes and the freedom to pursue individual interests that their elders renounced. While a large part of this change is essential to attracting talent, remaining relevant and furthering the evolution of the organization there are also precarious areas to be navigated.

The challenges the next generations face, while vastly different from those tackled by the founding team, are no less real. From a Harvard class synopsis comes this thought-provoking statistic: "Only a third of family companies pass successfully from the founder generation into the second generation, and only half pass from the second into the third generation." Another interesting report on family businesses claims that in today's generation the sense of entitlement has gone up while the sense of responsibility has gone down.

Will internal politics and financial abundance weaken family ties three generations down? What does it take, for a family-run organization to hold together under the multiple pressures of expansion, succession, competition and changing management trends?

In this period everything from Aravind's leadership structure, organizational model, and priority areas, to its guiding principles and core beliefs are being thrown in the balance. The organization will need to decide what parts to retain, what to refashion and what to jettison entirely. It is a hazardous and profound period. At no other point in the organization's history has it been as imperative for Aravind to attempt a deeper exploration of itself and its relationship to Dr. V's compassionate vision.

CHAPTER 20: A PLACE TO PRACTICE TRUTH

Getting into his car GS notices a plastic bag with two unopened bottles of fruit juice on the floor of the backseat. “Are we going on a picnic?” he asks with a half scowl-half smile, “Who put those in here?” From the backseat his sister Dr. Natchiar pleads innocent. He turns to Subramaniam, the driver, timid and hard of hearing who has been with the hospital for thirty years. “Did you put these in here?” GS demands. Dr. Natchiar starts to laugh, “Of course he didn't, let’s go.” “Shall we return one of the bottle?” asks GS -- ever the resource manager. “No,” says Natchiar, “If no one wants it we'll bring it back.” “There's a cushion in the back for you," says her brother, referring to her back problems.

They have an easy camaraderie between them. They soon begin to discuss the donation of a mansion by a wealthy mill-owner to Aravind. It will be converted into a surgery center. “We should send an email to Dr. V to let him know about this,” says Dr Natchiar only half joking. “Do you think he's doing all of this from wherever he is?” GS's response is terse, “If people have that faith here that would be a good thing -- instead of all this ‘I did this, I did that talk.’” Sore spot. Dr Natchiar winks and says stoutly, “Who says that? Let’s give them a piece of our mind!”

They drive away from Vaigai, the temperamental river that alternates seasonally between trickle and flood, and divides Madurai in two. On one side rise the famous towers of the Meenakshi temple. On the other side is a street that has steadily been taken over by Aravind’s expanding empire of eye care. Its tall buildings are all painted either light blue and gray or a pleasing beige. Each stands behind gates that bear the circular flower-like symbol of the Mother. Like others in the family, GS and Dr. Natchiar both wear rings with this symbol; it is a talisman of sorts, and a reminder.

Subramaniam drives them up to Aurofarm, situated about fifteen minutes away from the hospital. Dr. Natchiar visits it every day after long hours of work. The front has been planted with twenty varieties of frangipani trees. To the right is an aroma garden, roses and jasmine mixed in with a variety of other scented flowers. On the far end of the farm is a wide lake with stone benches scattered around the perimeter. The lake is surrounded by silk cotton trees, feathery casuarinas, traveler’s palms, canna lilies, coxcomb, hibiscus

bushes, pink bottlebrush trees, water lilies, bougainvillea, impatiens and periwinkle. “I love this place because it was designed and executed by amateurs – more than 100 people worked to create this,” says Dr. Natchiar.

In 2002 she had asked her siblings for some land to “farm with”. They had laughed her off initially, but she persisted, and had eventually been given a few acres on the barren 80-acre property that would house Aurolab’s new facility. Under her creative hands-on leadership Aurofarm has blossomed into existence. In typical Dr. Natchiar fashion she ensured collective participation. All the nurses, doctors and various department heads at Aravind have planted a sapling on this property. She brings groups of paramedics to Aurofarm on a regular basis and they all work side by side in the gardens.

She pauses by the young banyan tree that Dr. V had planted. “He used to come and monitor its progress each evening,” she says. “He once asked, ‘Why did you pick a banyan tree for me?’ and I told him, because even after you and I are gone, the other trees that spring from us must still be standing strong.”

India’s first woman neuro-ophthalmologist, a woman who has dedicated her life to growing things: surgical skills, hospitals, outreach programs, training hundreds of people — and now, this transformed land. She looks across the wide fields of paddy ready to be harvested. The green-gold rice stalks are bent, heavy with grain. “The poets always compared wise men to rice ready for harvest,” she murmurs, “Like them, they carry so much, with so much humility.”

She is very excited about the crop this year. “We will harvest 200 bags of rice at Aurofarm this time. It's a record yield, and all organic!” Yesterday the Aravind Eye Care System was presented with the prestigious Hilton Humanitarian Award. It is $1.5 million in award money – the highest cash prize for social work in the world. Through the week, Dr. Natchiar does not mention the award money even once but she will tell many people about Aurofarm’s bumper rice crop.

In the last three years The Aravind Eye Care System has steadily gained visibility on a broader global platform. In 2010 the same year Aravind received the Hilton Award, Dr. Namperumalsamy’s name made it to Time Magazine’s list of the 100 most influential

people in the world. In addition to the Gates award for Global Health, recognition from the Clinton Global Initiative, partnerships with the Skoll Foundation, Acumen Fund, Google.org and a wide-range of other organizations have brought to Aravind a kind of unaccustomed celebrity.

Aravind's "no fund-raising" stance in the early years was a pivotal shaper of the model. While it continues to steer clear of actively fund-raising, Aravind does receive grant funding and unsolicited donations from individuals. It is extremely clear about how these funds are used. Aravind divides its work into core and peripheral services. No external funds are used for Aravind's core work -- its main patient services, training of internal staff or the building of new hospitals. "We want to keep our core services free of the vagaries of funding," explains Thulsi. External funding is channeled towards Aravind's peripheral services, which have an impact on the broader community of eye-care. Thus support received from Lions International, Seva Foundation, Sight Savers International and Acumen Fund helped create new and broader ventures like Aurolab, LAICO and the research foundation.

"It was our duty to take care of each of Dr. V's visions – one after the other. It gave us such powerful energy," says Dr. Natchiar. "The present generation should find new energies, new challenges… the only problem is that they don't have financial difficulties." She sighs, smiles and continues, "From our perspective we used to have ten meetings to figure out whether or not we could afford to buy a fan, so sometimes we're scared that our conservative approach will be lost now that we have money."

The decades of bootstrapping, sacrifice and hard work, in addition to the various awards it has garnered have led Aravind to a place of unprecedented abundance. Not counting money from external sources, the organization currently sees 40% gross annual returns. Returns that any company would be proud of. But how does this relative prosperity influence Aravind culture? Thulsi is matter-of-fact in his response, "It could work both ways. We could become more adventurous; do things with more financial risks. But it's also a gamble." He pauses and then continues, "For the immediate future, however, I don't see the leadership becoming wasteful."

But simplicity is a relative concept. Doctors at Aravind have recently been advocating the air conditioning of vehicles used for rural eye camps. It's not an unreasonable request given that summer temperatures regularly cross 104 degrees Fahrenheit. But it does trigger a red flag for some. Dr. Viji talks about it with some consternation, "What to do? My word of caution is that you can't put comfort first. You have to put our values first."

Dr. Viji had been working in the fields alongside her mother in their village the morning her brother Dr. Nam had come by, waving a piece of paper – an application form for medical college that Dr. V helped obtain. In that instant a whole world of possibilities opened up for her. Like the other founding team members, Dr. Viji, Chief of Aravind's Pediatric department has never forgotten her village roots, or the value for simplicity and thrift that it engendered in her. "This is why we tell our children to keep visiting the villages. You need that natural experience, otherwise you live in an artificial world."

To the founders, the good of the institution is inextricably bound up in the welfare of the poorest of those it serves. They don't need to think about, or articulate it; it is bred in their bones. "We need to understand the situation of the common person. This work is about restoring dignity, not just vision. It is important to have that base – if the family doesn't do it you can't expect others to follow. It's not easy to teach this," says Dr. Natchiar.

"People used to do things differently when Dr. V was around," observes Dr. Viji wistfully. "In Tamil there is a saying: 'tethered donkeys let loose.' We are like that now. There's a lot of growth now, but that same "check" isn't there anymore." There is an inevitable nostalgia in her generation, but it is not the heavy, damaging sort. Dr. Viji laughs and adds sincerely, "There are definitely a lot of good things happening too."

The founding generation knows that it carries certain implicit aspects of the model in every fiber of their being in a way their children do not. "Sometimes when certain ideas come up, we know very clearly that following them is not the Aravind way. But when the younger generation asks why I don't have the words to explain it – *I just know*. So it's a bit difficult," admits Dr. Natchiar. And yet she and the others are also very aware of their own limitations, and the fact that increasingly their way of doing things may no longer be

in the best interests of the organization. “Things change. Right now we’re transitioning, handing over and we’re a bit scared about how to hand things over in the right way. To hand over the right amount at the right time. And of course,” says Dr. Natchiar flashing a mischievous grin, “we still need to stick our noses into everything.”

Dr. Usha, the current head of Aravind Madurai’s Oculoplasty division who also manages the paramedical training program is matter of fact about the founding team’s rights to the organization. “This is their baby, their tree,” she says firmly. “They can trim it the way they want. Yes, there will be some differences of opinion. They came up through all these hardships, so for them there is always a fear of extravagance. We were brought up in abundance, so for us the mentality is ‘When you have it why not spend it?’ My take is that we, the next generation, need to make our mistakes while the older generation is around to support us. They should give us a little freedom and we should pay attention to their advice. Both sides need to give a little.”

There is no doubt that Aravind is steadily and deliberately moving away from a heavily hierarchical and authoritative structure to one that is more decentralized and democratic. “We are building on the earlier foundation. Now there will be more people contributing and feeling a part of it – not just three or four core members of the family. This requires a lot of letting go,” says Dr. Natchiar’s eldest son, Dr. Prajna. And then, with a smile that delights in his own irreverence, he adds a fervent declaration, “I love letting go.”

The handing over of leadership coupled with India’s economic growth and the changing nature of both customer and doctors’ needs called for a formal reordering of organizational structure. New roles were identified and second-generation members elected to fill them. The change has resulted in more equal representation across the system, clearly defined decision-making processes and the inclusion of non-family members in influential roles.

Fred Munson played facilitator in designing and implementing this sensitive transition. He was a natural choice. The Munsons’ resonance with Aravind’s core values, intuitive understanding of cultural dynamics and deep love for the family has earned them a

unique place in the fabric of the organization. A farm boy at heart who to this day drives a tractor and chops wood, Fred's self-reliant work ethic and action oriented approach quickly won him the trust of the founding team at Aravind. In an organization that for years ran along the lines of a benevolent dictatorship, his value for democracy, his gift for listening deeply and consummate diplomacy meant that he was a valuable confidante for both generations. Aided by his daughter Meg Leuker (also a long-time volunteer at Aravind), Fred conducted in-depth personal interviews with the leaders across all five of Aravind's hospitals as well as its ancillary divisions, LAICO and Aurolab. He moderated group discussions that brought to the surface the most pressing concerns of both generations and helped them find common ground.

As a result of these discussions a clear choice emerged for the next Chairman of the Aravind Eye Care System: Dr. RD Ravindran – the man who had without protest uprooted his life and that of his family's every single time Aravind built a new hospital. As Aravind's 'start-up specialist' and a brilliant doctor Ravi has vast hands-on experience in the art and science of building and replicating hospitals. Yet, he has never sought the spotlight. Ravi accepted news of his nomination to Aravind's highest post with reluctance, fully aware of the complexities of the position and the immense responsibilities that accompanied it. But when he speaks of the work that lies ahead and of what values must be held central, Dr. Ravi speaks without hesitation. His perspective is clear and surprising in its emphasis on spiritual underpinnings.

"Dr V's goodwill wasn't just for his family and his staff -- it extended to the whole society. His spirit created a shield around us and the organization. How long will that shield be there? Probably for a little while and then it will start to disappear -- unless we do something. In the next five to ten years, we're entering a time when the materialistic part of India will peak. Our challenge is: how do we be modern and still retain inner simplicity? We have to learn to balance. As leaders we have to be simple and a few of us must practice at this level. The material support that we give people shouldn't be our focus, at a policy level we have to implement certain changes: raise salaries, strengthen retention, give people intellectual opportunities for research, publications, etc. but the focus should be on the inner aspiration."

At Aravind-Madurai, the light is on in Dr. V's old office room and the door is open. The office has remained untouched for the four years since his passing. All the familiar landmarks are still there -- the bursting bookshelves, the world map on the wall, the special back-rest on his office chair. On his desk are the paperweights he used to anchor the wide pages of *Savitri* as he read from Sri Aurobindo's epic. Fresh flowers have been placed on the low shelf in front of the poised, gray stone statue of the Buddha. There is also a picture of Dr. V taken in this very room; his arms resting wide on the desk, a radiant smile lighting his face. The room holds a stillness and a presence that is palpable; but it is not destined to remain a static shrine. At Dr. Natchiar's insistence (and to Dr. Ravi's initial dismay) it was decided that the incoming Chairman would occupy Dr. V's office on the ground floor of Aravind-Madurai.

Though they each carry a part of his legacy, not everyone in the second and third generations at Aravind has inherited Dr. V's strong conviction on the importance of internal cultivation in the work they do. And yet together, they have selected as the organization's next leader, a person who sees this as an essential part of their aim.

"People who come here to write business studies get fascinated by the numbers, millions of patients hundreds of thousands of surgeries, financial sustainability and all that. But what matters is the human touch. Our patients feel this. I don't know how. But when we talk to them we don't have that mentality of, "How do we get more money from this person?" There's some vibration to that kind of interaction," says Dr. Ravi thoughtfully. "See the problem of blindness is going to be eliminated. It's just a matter of time. At Aravind, unless we practice certain things people won't see what differentiates us from the rest. Through Dr. V's work Aravind has emerged as a place where you can practice the truth. Through Aravind he created an external manifestation for an inner aspiration. He ensured that there is a soul behind the systems and procedures," he says. "New leadership should not just look at Aravind's work as the elimination of needless blindness. That is the outer goal. But there is an inner goal," he adds, "We must not do the outer work at the cost of that inner goal. We have to maintain Aravind as a place where people can express their true nature. We shouldn't forget this." Dr. Ravi's words

delivered in his unassuming way shine like a beacon. In this moment, he sounds very much like Dr. V.

EPILOGUE

It is an early morning in the summer of 2004. As was our custom for many years, I am reading aloud from Sri Aurobindo's Savitri to Dr. V – or Dr. Thatha as we in the third generation always called him ("Thatha" is Tamil for grandfather). Today's passage is a conversation between Yama, the God of Death and the princess Savitri. The long, flowing lines are dense with imagery and I unconsciously begin to read a little faster, not waiting for my mind to catch up to the meaning of the words. "Wait, wait," says Dr. V – who would remind me on more than one occasion that Savitri was meant to be read as if there was a ladoo (a round Indian sweet) in your mouth. He bent his head to the page before him and repeated with gentle deliberation the line I had rushed through; "Wilt thou claim immortality, O heart?" And then, in a moment I will never forget, he looked up with his signature chuckle: "Yes!" said Dr. V --- Pavithra K. Mehta

Immortality is a big word but at Aravind, it surfaces in countless little things. Dr. V's spirit lives on in the work of the organization, and his tremendous vision continues to light the eyes of millions. He was fond of pointing out that the famed Meenakshi temple, at the heart of Madurai was not the work of a single ruler. Featured in 7th century Tamil poetry the temple would be built to its current magnificence between the 16th and 18th centuries. Its creation was a work of faith, vision and dedication that spanned multiple generations of rulers. And the result is a living, ageless gift to the world. According to Dr. V it could be the same with institutions. That was his aspiration for Aravind.

The small, 11-bed clinic that Dr. V and his team founded in 1976 has culminated in the towering high-volume, high quality, low cost model that screens more than 2.7 million patients each year. Its fierce focus on equitable care created the phenomenal outreach program that ripples from village to village to reach the underserved. Its consultancy

services through LAICO have helped hundreds of hospitals across the world improve quality, double their productivity, and become financially self-sustaining. Its manufacturing division Aurolab ignited a revolution in low-cost medical devices, and continues to adapt new technologies for the underserved.

“Sometimes powerful, higher forces act on your life. At these times you must try and be still, because otherwise they cannot stay,” said Dr. V in a reflective moment. “You must step back and stay calm…and you must take time to see the sky.” Outwardly very little has remained still. The broader contextual shifts in India are matched by the surging energy and aspirations of the organization’s new generation of leaders. With a series of global awards, growing international responsibilities in policy setting and increasing attention from national healthcare systems around the world seeking to learn from its work Aravind is poised on the crest of a powerful wave.

Over three decades its work has proved a great deal to the world about what is possible if we join the best knowledge and tools of our age with more transcendent and timeless principles, or as Aravind's founder put it if, “we can combine modern technology and management with spiritual practice”. To Dr. V that combination paved way for a much deeper goal; one that defined his vision for Aravind and left nothing and no one out. “When we grow in spiritual consciousness,” said Dr. V, “We identify with all that is in the world. And there is no exploitation. It is ourselves we are helping. It is ourselves we are healing.”

That singular voice has long since fallen silent. On this particular day, dusk has let down its hem in Madurai. Behind Aravind, even as the sun sets, a silver cloud stretches its fingers each edged in bright gold, over the roof of the hospital. A radiant sign that in this moment seems both a blessing and a promise.